



Jean Charcot



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CHARCOT OF THE ANTARCTIC

by
MARTHE OULIÉ



With a Preface by
Admiral Sir William
Goodenough, G.C.B.

CHECKED

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*If it be true that a son should be proud of his father's name,
he should none the less strive with all his might to add to
the glory of that name.*

J. B. CHARCOT.

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I hope that all those who have helped me in one way or another will accept this expression of my thanks. Particularly I would like to thank Admiral Goodenough for his continual assistance, Mr. Brian Roberts for his care and interest in reading the proofs and John Murray for valued advice.

Preface

BY ADMIRAL SIR WILLIAM GOODENOUGH, G.C.B.

(Formerly President of the Royal Geographical Society)

It is right that a life of Jean Charcot should be written in English, for he loved our country greatly, had many friends in it and rendered it both generally and scientifically great service. The association is strengthened by the fact that the book is produced by a Frenchwoman, with the help of two young Englishwomen. Charcot's association with this country started almost from birth, for it was from the lips of his Welsh nurse that he acquired that facility of English speech and language which, perfected by his own study and brilliant mind, made him its master in conversation, phrase and idiom.

It was not only his knowledge of our language that made him so completely at home in this country. It was his power of comprehension of the intimacies of English life. The constraint of foreign custom which may seem somewhat of a bar to entire ease among those who come from across the Channel was nothing to him. He was equally at home in discussion, difference, agreement or chaff in a way that is given to few among those of different nationalities. This was well displayed when in 1914 he commanded a French vessel with a mixed crew of French and British, under the command of and in the entire confidence of a British Admiral.

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It was, however, as a scientist, an adviser and a personal friend that he found his most intimate connection. He was a scientist by birth, by inclination, by training and education. It is remarkable that though most speak of Jean Martin Charcot as the father of the Polar Explorer there are many who speak of Jean, the subject of this memoir, as the son of the great neurologist. In his father's powers and fame he took great pride. When in the Antarctic he named one of his discoveries of land masses "Charcot land," he was careful to point out that it was his father's name and not his own that he wished to perpetuate.

He was quite unselfish, indeed quite selfless. The vast storehouse of his knowledge was at the disposal of all who would make use of it in the interests of human progress. With the true appreciation of the scientific mind he was ready to give that knowledge to the world, with the hope, indeed the expectation, almost the demand, that those who benefited by it should add to it.

Modern youth may think that he came somewhat late to the career of a polar explorer, for he was thirty-five before he went on his first voyage to the South in the *Français* of 250 tons, with the intention of relieving the Swedish Antarctic Expedition under Otto Nordenskjöld, whose ship had been lost in the Weddell Sea. Nordenskjöld had been rescued and Charcot was able to devote two seasons to exploration. It was however with the *Pourquoi Pas ?* that his name and fame are most intimately connected. Those who knew Charcot

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intimately will recognise the challenging spirit that such a name suggests. His power of leadership is shown by the fact that though the men of the *Français* had had hard times, for it is known that towards the end of her voyage they were pumping twenty-three hours out of the twenty-four and many were spitting blood from exhaustion and hardship, all wished to serve with Charcot again. In 1909, at the age of forty-two, he was again in the South, this time in the *Pourquoi Pas ?*. He was approximately the age at which Robert Scott went on his second expedition. Weather conditions were good ; he was able to examine Adelaide Island closely. In addition to geographical discovery much scientific work was accomplished in these two expeditions, for which he received the Patron's Medal of the Royal Geographical Society. On his return from this expedition Dr. Charcot was appointed Director of the 'Laboratoire des Recherches Maritimes.'

Great as was his loss, it was his death that was dramatic in its fitness. He had gone to Greenland for scientific research in the ship that had carried him so often. On his return, September 1936, he touched at Reykjavik. He sailed from there at 1 p.m. on September 15 and met with a great gale, in which, at 5 a.m. the next morning, his ship was forced on shore, and his crew of some forty men lost with but one survivor. He died as he had lived : his thoughts full of the safety of his men, not of his own ; his last known act to release the ship's seagull from its cage.

Charcot and twenty-two of his companions whose bodies were recovered were given a national funeral at Notre Dame,

and in the brilliant sunshine, with not a breath of wind, in the heart of their own country, Jean Charcot and his comrades, far from the tempest and blizzard that brought them to their death, were carried home.

Any young explorer to the Polar regions who went to Paris to see him, or who wrote to him for advice, would receive it spoken or written with a clarity and completeness that displayed his accuracy in observing, his discrimination in selecting and his generosity in giving. It was a joy to him to give.

Shortly after his death, I was given an opportunity of realising this: Two young Englishmen, unknown to him personally, were about to visit the coasts of France in a small sailing yacht. They wrote to him for advice. Back came a letter: four sheets of closely covered paper in his own handwriting, giving details of harbours, dangers to be avoided, where to take advantages of shelter. As one read one could see the pleasure the man was taking in helping his fellow-man, the impetus gained by a progressing generosity.

Another instance may be quoted by an extract from a letter of Brian Roberts' of November 1937, lately with John Rymill in the Graham Land Expedition '. . . I hope that Marthe Oulié will include in her book something about his kindness to young Englishmen, by giving advice and practical assistance to all who asked for it. . . .

'Our northern base was only a few miles south of Petermann Island, where *Pourquoi Pas ?* wintered, and we made several

visits to Port Circumcision. Down by the sea only some old anchors and pieces of iron showed where the ship lay, but the cairn on the hill-top, with its leaden tablet, on which are engraved the names of the expedition, was in perfect condition and will last for generations. Behind the tablet a little Wilson's Petrel was sitting on its egg and we felt how Charcot would have been delighted to hear that this smallest of Antarctic birds had chosen this cairn instead of a burrow for its home.

'We found Charcot's maps remarkably good considering that most of them were based on running surveys from the ship. There were no outstanding errors of the type which was common in Antarctic maps at the beginning of this century, for he always carefully distinguished between what he had actually seen, and what he surmised.

'The name *Pourquoi Pas ?* does not at present appear on the Graham Land coast, but we are hoping soon to correct this, for John Rymill proposes to give her name to the large island in Marguerite Bay, whose south-western point Charcot called Cape Laincy. . . .'

With all his application to scientific matters (and these he followed with the close and logical attention for which his countrymen are rightly famed), he never lost his sense of humour. It must have helped him greatly in his work.

The details given him of how to treat the Polar Bear in the Antarctic were a perpetual joy to him. His representation of himself to the traditionalist as an extreme socialist and his subsequent subjection of his companion by the charm

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of his attentions were equally a joy to those who witnessed them.

His polar researches are well-known and are described in this book from a new angle and with fresh light on them. To gauge what was so generously given to this country would be a poor way of repaying our debt. To recognise it is a privilege, and if I may speak for some of those who have benefited, it is an honour to be allowed to do so.

If it is fitting that this life should be written in English, it is a happy circumstance that the task of writing it should fall to Mlle. Marthe Oulié. Marthe Oulié's great distinction in the worlds of literature and archæology—to say nothing of her travels and sailing cruises in small yachts manned only by girls—are in themselves a guarantee of sincerity and independent judgment. The Navy has welcomed her in the Mediterranean : Oxford welcomed her for a few terms : she has lectured to the Association of France Grande-Bretagne. Added to these is an intimate knowledge of the subject of her Memoir. Known to Jean Charcot who, when President of the Yacht Club of France, begged the decoration of Naval Merit for her, Marthe Oulié became very dear to him. He spoke of her as 'my godchild.'

She has done her work with tenderness and comprehension.

W. E. GOODENOUGH.



CHAPTER I

The Family

ABOUT a hundred years ago Martin Charcot's shop was one of the most important in the Rue de Trevisé. In the shop windows were sketches of the brightly coloured, high-perched carriages fashionable at that time. Charcot, a wheelwright, endeavoured by dint of conscientious toil and good taste to attain the title of coach-builder. But in spite of his business-like methods the craftsman did not amass a fortune.

Martin Charcot had four sons ; Martin, Jean-Martin, Émile and Eugène. "We ought to give them a good education," he would say, ". . . of course we have not the means to give them all advantages, but I shall try at least to set up the one who shows the greatest promise. I shall manage to send them all to the Lycée Bonaparte for a year, and at the end of the year the one who receives the highest praise from his teachers can continue with his studies. As for the others they will become craftsmen like their father, or else seek their own fortune."

The children were sent to the Lycée. Jean-Martin, born on November 29th, 1825, was a serious child with grave brown eyes ; he had a love of sketching. With his power of concentration and good memory he quickly outstripped his fellow-pupils. On the way home from school the child liked to linger in front of the veterinary surgeon's house. He would gaze through the window for hours, watching treatments being given to the animals, and the solemn sensi-



van pendant le bon d'écriture le 19 août
1872

tive child would often be moved to tears. It was then that he made up his mind he would be a doctor. Martin, the eldest son, went to work in a forge, later he took over his father's shop; Émile trained as an officer in the army; Eugène decided to be a sailor.

Jean-Martin passed his examinations brilliantly, and became a medical student. He longed to prove himself worthy of his parents' confidence, and buried himself in his work. He lodged in a little attic; his brothers used to bring him glowing embers to keep his meagre fire going, and very often, to economise on fuel, he brought back small bits of dissected bodies from the hospital.

To the great joy and pride of all his family Jean-Martin became a fully qualified doctor. His masters, perceiving his exceptional talents, urged him to try for a position as assistant house surgeon, and some years later he entered the 'Hôpital de la Pitié' in that capacity, where he formed a lifelong friendship with Vulpian. In 1853, at the age of twenty-eight, he got a post as Chef de Clinique to Rayer, who was physician to Prince Jerome Napoleon. The time had come when he could start to practise.

"You will never have a patient," Rayer told him, "as long as you keep that moustache."

"I will have it cut off, sir, as soon as you find me one."

Several days later Charcot received a letter from Rayer saying, "You can have your moustache cut off, I have found you a patient!"

In his youth Charcot had that consciousness of his own worth which fools confuse with vanity. He would not have been content with the modest position of an ordinary doctor, he felt that he was cut out for other things. Every moment of his life was devoted to study; for him there was some-

thing to be learnt from every book he read, every work of art he saw, every conversation in which he took part. In small students' notebooks he jotted down not only his medical observations, illustrated by sketches, but articles on the most varied topics.

His patient was a Monsieur A. Fould, one of the men most in the public eye in Paris, a financier and the brother of a Minister of State. He asked the young doctor to accompany him and his wife on a journey to Italy. Although he would have asked for nothing, when the journey came to an end at Naples, Charcot received a generous sum of money, and the firm friendship of the Fould family. The years of hardship had passed, and a golden future was before him.

He was able to settle in the Rue Lafitte, and here he worked for his examinations harder than ever. As a 'Médecin des Hôpitaux' he passed his *agrégation* and then with his friend Vulpian he became a member of the 'Hospice de la Salpêtrière' staff, which he was never to leave.

At that time it was a position not greatly to be envied. Visitors hardly ever ventured into this home for madmen and incurables, of prostitutes and old women at the point of death. The Salpêtrière, with its eight thousand inmates, formed a town within the town. The noble and imposing building was converted into a hospital after the people of the Saint-Antoine quarter had asked Louis XIII to transfer the powder magazines of which they were so afraid to the left bank of the Seine.

One is struck by the simplicity of the little study of the man who was to become the great genius of the Salpêtrière. It is preserved intact: a little black table with his notebook waiting for him, and an official inkstand of white porcelain; on a pin-cushion the two big pins which he used to provoke

hysterical reaction can still be seen. His laboratory was no more luxurious ; it was installed in an attic-kitchen.

By this time Dr. Charcot's position was established firmly enough to allow him to think of marriage. His artistic tastes had attracted the attention of a wealthy art-collector at Neuilly, M. Laurent Richard, the owner of an important tailoring business. Charcot was often invited to dine at the luxurious villa in the Avenue de Madrid, and there he met his host's daughter, Madame Durvis, a widow with a charming little girl, Marie, who was seven years old. Madame Durvis was a good-looking woman with blue eyes and a figure rather plump even for the fashion of that time. Her forceful character was well suited by her Christian name—Augustine Victoire. But the handsome doctor persuaded her to marry him. Laurent Richard, who was very fond of his new son-in-law, overwhelmed them with gifts, and thanks to him the couple were able to settle down at 6, Avenue du Coq, in the Rue St. Lazare, less noisy then than it is to-day.

In 1865 a little girl, Jeanne, was born, and two years later, in 1867, a boy, Jean. Madame Charcot had planned to feed the child on goat's milk, but on giving birth to a boy she changed her mind ; goat's milk was only good enough for a girl.

Neuilly, now a fashionable suburb of Paris, was then quite in the country. Madame Charcot had moved to a villa there, for the sake of the children. It was a friendly house, and charmed both its inmates and their friends. On the lawn at the back a miniature, winding pool may have suggested all the magic of the sea to a child's eyes. The Bois de Boulogne was at the gate, and through the bluish morning

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mists could be seen a glimpse of the Saint James lake, and its black swans.

This house became the property of the couple, and they took great pleasure in decorating it with their own hands. Augustine Charcot had artistic gifts, like her husband, and a special bent for decoration. Interested in technique she had no hesitation in going as far as the Faubourg Saint Antoine to learn from a craftsman how to bake an enamel, and taught her husband the process. On the walls of the villa at Neuilly they had painted quotations from their favourite authors, among them this proverb :

A chascun oysel
Son nid si semble bel
(Each bird thinks
its own nest pretty.)

During the summer of 1869 Charcot received the sad news of the death of his brother Eugène, who had been killed fighting in Senegal. According to his commander's report he had disappeared in the course of a furious charge, meeting a glorious death at the very moment when his long and brilliant service was on the point of being rewarded.

When the disastrous war with Germany broke out there was no question of the doctor giving up his service at the Salpêtrière, but directly Paris was in danger he decided to send his wife and children to the provinces. Marie, a pretty girl of fifteen, was to help her mother to look after the children, Jeanne, then five, and Jean, who was three. Jean had his father's eyes, with the same serious, gentle look, and in his embroidered dresses he used to be taken for a little girl. The family was accompanied by a German maid, who treated them with respect because she was afraid of being arrested.

The Charcot family were stranded at Caen in an hotel so

uncomfortable that Madame Charcot filled four long pages with lamentations in a letter to her husband. She would like to slap the wretched Sophie, who does not attempt to hide her pleasure at the news of the German successes ! How is she to endure their separation ! Why should they be parted ! Madame Charcot's wailings continue during the whole of the war, at the rate of one letter a day, and every day the doctor sent a kindly, gentle reply, in an effort to stem the flood of reproaches.

His letters, written in cramped handwriting on very thin paper, had to be sent by balloon and carrier-pigeon. Written during the siege of Paris, they tell of privations bravely endured, full of jokes to keep up the spirits of his exiled family, full of confidence in the destiny of the country.

Doctor Charcot had persuaded his father-in-law to join his daughter, so that she might have a man's support. Madame Charcot would sit and sigh as she made bandages with Marie, whilst little Jean talked of killing Prussians. "I don't want to grow, or Papa won't know me," he said. From Caen they went to Dieppe on September 28th.

The Charcot family had great friends of Italian birth, the Casellas, living in London, and they were urged to cross over to England. But Madame Charcot could not make up her mind to do so. The Casellas inserted messages in the 'Personal Column' of *The Times* so that their English friends in Paris, the Herberts, could pass on news to the Doctor, for it was easier to get news from Dieppe to London than Dieppe to Paris. The English newspapers coming into Paris were the best informed as to the progress of the war.

England was criticised by the French newspapers for not intervening. What could they be thinking of that they suffered unmoved the insolence of Prussia ?—"The British lion

is dead, and they have had it stuffed in secret after having its heart taken out !' The Russian Empire demanded the return of Sebastopol. The Treaty of Luxembourg was denounced. The Uhlans passed through Brabant as though they were in their own country. France was within an ace of defeat.

That winter was very severe. Typhus was raging in Versailles, small-pox in Paris. The doctors were toiling night and day. Doctor Charcot, for want of any other means of transport, went to the Salpêtrière by boat. Paris was bombarded 'at the rate of two shots a minute. The shells are not doing much damage, but they destroy all hope of sleep. No one is sure when one of these projectiles is not going to drop through the roof on to his chest like a poultice.' The Salpêtrière was turned into an ambulance station. The Hospice was struck by a shell, and the patients took what shelter they could. Charcot wrote that 'a monument should be erected to the shame of Germany.'

In spite of the hardships of the siege and of the winter, Charcot's letters remained cheerful. But he had had no news of his family since December 9th. He read and re-read Jean's first letter (his mother guided his tiny hand) which he had received in September : 'Papa, I want to tell you that you mustn't get killed or wounded.'

On January 23rd the Government fell, and five days later came the armistice. The Prussian army was not to pass the Paris fortification boundary, the French officers were to keep their swords, and order in the town was to be assured by ten thousand police from the French 'Garde Nationale.'

Dieppe was invaded by 10,000 Prussians, and it was no longer possible to find lodging there. The harassed family decided to cross the Channel and to settle in Upper Phillimore Gardens, Kensington, with their friends the Casellas.

Laurent Richard, very worried about his art treasures, stayed on in Dieppe, in order to vote in the forthcoming elections. Charcot hoped equally for the defeat of the Bonapartists and the extreme Reds: his wife was imploring him to join them, but the armistice expired on February 14th and he did not dare leave the house as the 'Garde Nationale' no longer had any respect for property. Paris had to endure the Prussian occupation and letters from Charcot's brother Martin, dated March 1871, give a vivid idea of their stay.

'... Our part of the Avenue d'Eylau has been saved from occupation by their Highnesses the Prussians owing to their fear of the small-pox which they thought was raging in the Longchamps ambulance stations, about a hundred yards from us. . . . A Prussian complained bitterly to a neighbour that Paris had received them with scant courtesy, that they could not understand this as they had done no harm and had, moreover, all of them got plenty of money to spend in their pockets.'

At last the storm abated and Doctor Charcot was able to bring his family back to France. Madame Charcot heaved a sigh of relief on finding her Paris flat and her house at Neuilly, where a staff officer had been billeted, still in good order. The new Welsh nurse was a little frightened at arriving in Paris during the reign of the Commune. Order was re-established. The Republic that Charcot had expected was set up. He was one of the most important personalities under the new regime.

The following summer he left with other French delegates on a visit to Ireland. Madame Charcot, with rare self-sacrifice, realised that she would be a poor companion; when she travelled she had to take her bedding, her wash-basin and numerous trunks. She resolved not to burden her

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husband, and in the future whenever he had any journeys to make she decided to let him go with friends or with his children.

The famous doctor had a clean-shaven face, long hair, and a dignified mien; like every true Frenchman he was dressed in black. In fact, the Irish took him for a priest, and addressed him as 'Your Reverence.' The Irish gave them an enthusiastic welcome. Their hotel resounded with the sound of trumpets—all playing different tunes at the same time. In the streets the urchins—those ragged barefooted urchins whom Charcot draws so sympathetically—whistled the 'Marseillaise' as well as 'Erin-go-Bragh.' Everywhere green banners hung with tricolour flags.

Pourquoi Pas?

SUCH were the first sights and the first stories to make an impression on little Jean. He was four years old in 1871, and already he had lived through great events. He had had to flee from the invaders, he had heard the Prussians cursed, the Irish extolled. He had crossed the sea and had not cried on seeing the huge Channel waves. He had seen London and its hansom cabs. He had spoken German to Sophie, English to his Welsh nurse, French to his family. He has a serious, attentive look, already laden with memories or with dreams, in the charming photograph taken when he was four, wearing his first sailor-suit. In his hand he holds a small wooden boat, given him by M. Casella, the family's London friend. Jean's favourite pastime was to sail a boat on the miniature pool at Neuilly for hours on end. His happy laughter could be heard all over the garden.

"Are you going to be a sailor, then, Jean?"

"*Pourquoi pas ?*" said the child, tossing his determined little head.

One morning, armed with an old soap-box, on the side of which he had written the challenging words '*Pourquoi Pas?*', he stealthily opened the gate, scampered across the avenue and ran till he reached the Lac Saint James. Jean set his box on the water, climbed in, and sailed away among the water-lilies and the reeds. But the box was not water-tight, the black swans started to chase the adventurous child

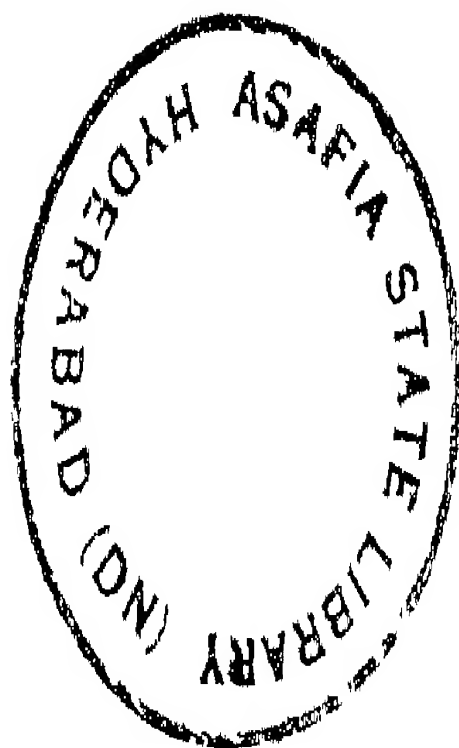
come to dispute their sovereignty, and the expedition was in danger of coming to an untimely end. Jean was soaked to the skin, and badly wanted to cry, when Marie and the nurse arrived on the scene just in time. He was let off with a severe scolding. The two girls had no idea that they had witnessed the first voyage of a great navigator.

To keep him out of mischief his parents sent him to a kindergarten, where he stayed till 1876, when he was nine years old and it was time for him to begin school in earnest. A new school had been founded in Paris three years previously by a group of Alsatians who wished to give their children a French education, but one unhampered by the conservative religious traditions found in the *lycées* of the period. The École Alsacienne claimed to be completely impartial in religious matters and accepted Catholic, Protestant and Jewish children, as long as they were well brought up. It aimed at having small classes so that the children could have individual attention in their work ; the discipline was not strict, and included no actual punishment, not even detention ; the teachers appealed to the children's sense of honour and responsibility. Each teacher lived in a big house, and the boarders shared the family life. The teaching of Latin was begun when the pupils were ten, instead of at eight as in the *lycées* ; modern languages were spoken and sung, art was studied by visits to museums.

Doctor Charcot had heard of this establishment through a friend, and on October 4th, 1876, he took his son there. Autumn was reddening the trees in the Bois de Boulogne ; the family had settled once again in Neuilly. To reach the school, near the Observatoire, Jean had to take the ancient diligence from the Rue de la Ferme, which stopped at the corner of every street, the journey taking a good hour. He



Jean Charcot at the age of four



had to get up early, and as soon as he heard the tinkling of the bells on the old coach had to dash out.

Jean was heavy-hearted. As he was to recount later, he was 'imbued with the traditional ideas of terror connected with going to school for the first time . . . but this fear did not last long, and I bore very little resemblance to the classical figure of the "new boy" after having sat at table beside Madame Breunig' (his master's wife). Jean Charcot always remained deeply attached to his old school, where he stayed for nine years, from 1876 to 1885. Years later he was to write : 'Eight of us were held prisoner by snow and ice in the narrow cabin of a polar vessel, and the conversation came round to school-days. The memories of six of the party were not happy, but two of us had been to the École Alsacienne and, to the amazement of our comrades, we recalled only joyous and happy memories of the years so detested by the others.' Yet he had never worked hard, and represented himself later as having been an appalling pupil. The only prize he ever won was for *bonne camaraderie* in 1885. Already full of explorers' dreams, young Charcot spent more time carving his name on his desk than in listening to his teachers.

But he was by no means lacking in intelligence. When he was eleven years old he founded an illustrated weekly paper, edited by 'Messers Isidore Snodgrass and Pickwick.' There were properly arranged columns with puzzles, caricatures and songs ; there was even a serial entitled 'Revenge,' the story of a three-masted schooner sailing for Patagonia. An important section was set aside for an editorial article and for a chronicle of events at the school. Our budding journalist wrote : 'A few days ago fire broke out in the stove of the *sixième*. The class was going out for recreation

when tongues of fire leapt suddenly from the confines of the stove. The pupils made a noble gesture. With one accord they rushed to the pump, soaked their handkerchiefs and quickly mastered the fire.'

Jean was an enthusiastic player of prisoner's base. One day one of the children, who was recovering from an illness, was roughly jostled and fell down in a faint. The teacher asked who was to blame, and Jean Charcot came forward. It was soon found that he had had nothing to do with it, but had wanted to save from expulsion one of his companions who had several black marks against his name.

Already there was a quiet assurance in his eyes which proclaimed him a future leader. He was often chosen as a spokesman. One of his fellow-pupils, a tall, shy boy, was the son of General Bocher, the director of the École Militaire. He arrived one morning with two rabbits. "Papa killed them yesterday when shooting with the President and his party, and he has sent them to our teacher. Won't you give them for me?"

Shrieks of laughter greeted young Charcot when he entered the room carrying the two rabbits by the ears, and announced with comical emphasis: "Look, Monsieur de Saint-Étienne, here are two rabbits sent you by the President of the Republic. Bocher's father killed them."

The house at Neuilly was not used quite so much now. In the summer the family went to Ouistreham. Hardly had they arrived before Jean ran to the harbour to find his friends the fishermen; it was in their craft, among the reefs along the coast, in the swift currents of the channels, that he learnt to handle a boat. His friend Casella often went with him, and noted the ability of the child.

"Papa, I want to be a sailor," he would say to his father on his return.

Under his austere manner Doctor Charcot hid a tender heart. He did not want to see his son leave home on long voyages.

"Nonsense! You are going to be a doctor. Until you have got your diploma you will obey me. After that you may do what you wish."

So there could be no question of going on the training ship *Borda*. Sadly Jean watched his companions leave for Brest. . . . Only later did he understand that the strict discipline entailed in the career of a naval officer would not have allowed him to fulfil his exceptional destiny.

When away from home, his father would write him letters full of good advice : 'You must get used to finding pleasure in work. It is a great joy to learn and to understand. You must always bear in mind that there is a goal to reach, an ideal to realise. In your case the ideal is to obtain a noble and eminent position in life, to *excel in something*.'

Such was Charcot's profession of faith ; it never lost its meaning for his son. It is such men who justify the existence of the liberal professions, men who carry on with the work they have chosen to do until death, and who, while they live, devote themselves to promoting the good of others.

The Great Charcot

DOCTOR CHARCOT after the 1870 war had settled in a spacious flat in the Hôtel de Chimay, now the École des Beaux Arts, at 17 Quai Malaquais, a fine seventeenth-century building, with views over the Seine and the Louvre. The Doctor was fond of strolling along, his hands behind his back, looking at the bookstalls along the side of the quay. The Imperial Government had refused Charcot for the second Chair of Pathology, but the Republic of Jules Ferry and Gambetta in 1881 appointed him to the clinical Chair of Nervous Diseases. His fame increased from year to year.

At the beginning of his career he had been interested in various questions. Doctor Mys, sometimes an opponent of his, compared him to a 'diamond, dazzling on every facet. In whatever direction he turned his intellect, he always managed to extricate something useful.' All the biological sciences attracted him, but he had given them up because, a great lover of animals, he could not overcome his aversion to vivisection. His philosophical nature led him straight to essentials and to the great human problem : the study of the brain and nervous centres. All his tremendous energy, till his death in 1893, were devoted to this study.

His observations were contained in eleven huge volumes and four collections of clinical lectures, as well as in medical papers. He discovered the complaint of lateral amyotrophic sclerosis, which is known in France as 'Charcot's disease,'

whereas in England tabetic arthropathies are known by that name. But what made Charcot world-famous was not so much this tremendous scientific discovery as his treatment and knowledge of hysteria.

Charcot concentrated on this puzzling question. In the fanatics of whom the Church made saints, in the maniacs so cruelly treated in the Middle Ages, the scholar saw hysterical subjects, poor unbalanced creatures, a prey to the most varied disorders. He succeeded in analysing their dual personality and in realising the power of suggestion over them.

Certain of his lectures were public. Soon it was not only doctors who slipped into the famous room at the Salpêtrière, but laymen too. In this mysterious room with its gloomy walls and high closed windows there was an electric control board, and a blackboard on which Charcot drew a sketch of what he wanted to explain ; in the deathly silence his serious voice hammered out the words. Charcot's works interested not only doctors and University people, men of letters and philosophers also followed his lectures. His influence on writers is undeniable. Goncourt followed his descriptions of hysterical twitchings and mental disorders, Maupassant writes of hallucinations, Mirbeau of violent neurasthenia. Traces of his influence may be found in Pirandello.

A famous picture by Brouillet shows the great man giving his lecture whilst a pretty girl—no doubt an epileptic—lies unconscious in the arms of the nurses.

Doctor Raymond, his successor, said, 'Thanks to the discoveries and teaching of Charcot, we have learned to cure paralysis, convulsions, pains, defects of speech, perversions of the intellect and of the character, which a short time ago we should have considered incurable, and in many cases these cures have the appearance of miracles.'

THE GREAT CHARCOT

Charcot was a free-thinker. He practised no religion, but respected them all, and several Catholic priests were numbered among his best friends. He did not wish to prevent his children from going to church, and when they were old enough they made their first communion in the ancient church of Saint Germain-des-Près. On Good Friday Madame Charcot used to take them to the sepulchre at the church of Saint Roch, and her son remained faithful to this custom all his life. Charcot was too broad-minded not to think with Shakespeare, his favourite dramatist, that,

There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy.

He taught that psychology must be based on pathological observation.

About 1885-6 little notice was taken of a young Austrian doctor from Vienna who followed the lectures at the Salpêtrière intently. He was particularly interested in the importance which Charcot attached to heredity and sex. When he returned to Vienna he kept the portrait of the master who had influenced him so profoundly on the wall of his study, and paid him this tribute: 'The glory of Charcot is above opinion and time.'

The young doctor was Freud.

Every Academy in Europe and America, and every medical society numbered Charcot among its members. There was no name more universally known. But in spite of his fame Charcot remained the same conscientious practitioner, only interrupting his work at the Salpêtrière apart from holidays for one day in the year, Good Friday.

He would arrive at the hospital in his hired cab, reading during the journey so as not to waste time. He was often

so absorbed in his reading that he would stay in the carriage for a quarter of an hour without noticing that he had arrived. Then Robert, his coachman for twenty-five years, would tap on the window, the Professor would get out, stroke the horses' noses, and make his way to his simple laboratory. Sometimes, still wearing his top-hat, he would put on his white apron and his wooden sabots, without worrying about his quaint appearance, which Brissaud's cunning pen has sketched, showing him absorbed in the study of a brain held in his hands.

Or he would go to his consulting-room. Charcot seldom lost his formal manner, and people thought him indifferent, even icy. At heart he was terribly shy. But the light of compassion would shine in his eyes when he was moved, and the old women lying sick worshipped him. He never refused treatment to a pauper or an adversary. On one occasion a baron who had come to see him, said: "I feel bound to tell you, sir, that I am the author of the infamous article against you, which appeared under the signature of Ignotus." Not only did Charcot treat him, but he also helped him financially.

A hospital nurse, Mlle. Bottard, who died not very long ago (she had gone into the nursing profession about 1835, then working *sixteen hours a day for eight francs a month*!), used to help him to question his patients. When he could not make a clear diagnosis Charcot would murmur frankly: "I don't understand it at all," and if the case were hopeless he would speak in Latin to his pupils, so as not to demoralise the patient. He could be a humorist when he liked, and sometimes pretended not to believe in medicine. When Naquet, the divorce champion, came to him twisted with rheumatism, the doctor sent for his cook Hubertine.

"She knows more about this subject than I do," he said. "What do you advise him, Hubertine?"

"Well, sir, at home we put a bag of oats, that's been well warmed in the oven, on the patient's back."

"You hear? There's your remedy, my dear Naquet!"

A profound democrat, he never made a poor patient give up his place to a celebrity. One day a princess was annoyed at having to wait like everyone else. "She is a foreigner," said Charcot, "she does not know that the Bastille has fallen."

On December 29th, 1885, he was received by the Queen of Spain in Madrid. 'As we were chatting, the baby king entered, followed by his duenna and his nurse. He held out his hand to me with a smile, and I asked the Queen's permission to kiss him; he is still only a toddler and hasn't a hair on his head. Poor little King!' It was the future Alphonso XIII.

People came from all over the world to consult him: the Emperor of Brazil, travelling incognito, the Grand Dukes of Russia, and the most famous statesmen.

The family left the Quai Malaquais in 1880 to settle in a house at 217 Boulevard Saint Germain. It was built in the Renaissance style. Stained-glass windows hid the busy movement of the boulevard; precious tapestries deadened the noise. There were wrought-iron chandeliers, dark wooden columns and Oriental carpets. Doctor Charcot himself designed the French garden there. Alphonse Daudet lived opposite to him. From both houses could be heard the ring of the hammer on the anvil in a near-by forge. The friends agreed that whoever lived the longer should remember the other when he heard the familiar sound. Daudet survived his friend by five years, "Alas, Charcot!" he would sigh when he heard the metal beaten.

Travel and Home Life

"MOVEMENT always does me a great deal of good," Charcot would say. "It is definitely the treatment for me." So he never tired of travelling. 'It is a great thing to learn and to enjoy oneself at the same time. Tell Jean that, one day he will understand and do the same,' he writes to his wife from Milan. From 1883 onwards Jeanne and Jean accompany him on his travels.

In August 1883 the trio went to Wales. The two children were tireless, though they were squashed like sardines with twenty other passengers in a coach: the coachman was drunk and they rolled horribly down the giddiest slopes; their father sat unmoved, and quietly smoked his pipe. Twice with Vulpian and the children he went to Belgium and Holland. In 1886 they went to Venice. The children were delighted with everything. Their father writes: 'With their imagination and their natural unaffectedness, they will always be able to enjoy themselves anywhere.'

In 1887 they travelled to Spain and Spanish Morocco. Jeanne was very proud. 'Papa is recognised everywhere, at the stations and in the carriages,' she writes during the journey. As for Jean, who was then nineteen, the women could not take their eyes off him. And plump old Philippe Burty, who went with them, adds: 'He has the complexion and demeanour of a young Andalusian nobleman. We are always saying that he must have Gipsy blood in his veins.' At

Tetuan he set foot for the first time on a new continent and his heart beat fast with excitement.

The family lived a busy social life as Charcot's fame and renown increased. Everyone was made welcome in this friendly and united family. The Spanish statesman Castelar praised them for their 'learning, grace and beauty.'

Garnier, the architect of the Paris Opera House, was a familiar figure in the Charcot's house. On one occasion he addressed some impromptu lines to the doctor :

Women beware ! as he passes
 He may make hypnotic passes
 To put you to sleep, and make
 You dream in a trance. That's his way,
 But I think it is wrong, I must say—
 He could easily keep them awake !

But above all Charcot welcomed students, for whom he felt a kind of fatherly responsibility. He was accused of showing favouritism to his pupils in examinations, and he did not deny it. He was the first doctor to be known by his pupils by the affectionate name of *patron*, which was used, too, by all his family. Madame Charcot was the *patronne*, helping them in their difficulties and worries.

The children had grown up. Marie, a very pretty girl, had married. Jeanne was known as Mademoiselle Pallas. This beautiful girl, with her independent nature and her keen blue eyes, had been brought up as a boy among boys. All Jean's friends were hers. Jean was beginning his medical studies. He had the ivory skin and the great dark eyes of a young Arab prince. He was a very popular young man and confided his youthful love-affairs to his father. The most complete confidence reigned between them, there was not the slightest touch of constraint.

Each child occupied a separate storey in one of the wings of the house. A big room on the ground floor was used as the family's art studio. The Professor made drawings, did wood-carving, or painted pottery. His wife sculpted a bust of her famous husband, or prepared to paint the drawing-room ceiling like his description of one at Tarascon, 'in tones of blue, white, black and gold.' Jean never wearied of drawing ships. Jeanne embossed leather or carved a statuette touched with colour, after the style of the Tanagras (like the one which was to win her a medal at the 1900 Exhibition). They worked in wood, iron and glass. The Casellas often joined them.

When the door opened Sigurd, the Great Dane, would make a majestic entry, or one of the monkeys—for in Charcot's home the animals were the real masters of the house.

One evening Madame Charcot was very busy. A Grand Duke, cousin of the Czar, had told Charcot of his wish to have a private meeting with Gambetta, who was a friend of the family. A dinner-party had been arranged. The conversation between Gambetta and the Grand Duke continued for nearly two hours. The other guests sat waiting for the door of the little drawing-room to be opened and for dinner to be announced. The party sat down to table little thinking that the preliminaries of the Franco-Russian alliance had just been settled. The time for dessert came. Beautiful apples were set out in the fruit dish between the silver candlesticks, and the Grand Duke helped himself. The apple was half gnawed. . . . Madame Charcot was overcome with horror and confusion . . . a second apple was in the same state. Everyone burst out laughing. The culprit had been Rosalie, who, like a cunning child, had taken care to nibble the fruit and leave one part untouched, so as to

deceive a casual glance. And Rosalie had disappeared, and was eventually discovered inside the piano, where she had taken refuge.

One day the doctor was seen to run towards the pool as fast as his embonpoint would allow him. A favourite duck, rescued from the executioner's knife, had just caught a frog, and on the doctor's objurgations, had to let it go. Charcot had a horror of hunting and of hunters, and launched violent attacks on them: "Man," he would say, "does not even run the risk of being in danger."

On Sundays the family would make excursions to Barbizon, then a fashionable resort. When bicycles became the rage Doctor Charcot had to give in to his family's entreaties and risk his life on a tricycle. Even Madame Charcot, heavily veiled to avoid recognition, and wearing a sports hat trimmed with ostrich feathers, would accompany them.

The studio was transformed into a theatre when they acted plays. Every year, for the doctor's fête, St. Martin's Day, they would get up a play or a revue; they acted Shakespeare and Molière. Jeanne was Lady Macbeth, the Casellas were the witches; Jean took the part of Julius Caesar. But their masterpiece was the legend of Saint Martin. The stained-glass windows, the medieval costumes were all the company's own handiwork.

Léon Daudet was a childhood friend. He and many other students would come every Tuesday evening when the Charcots received 'tout Paris' at Boulevard Saint Germain—politicians, scientists and intellectuals. The young guests would remain until after midnight, entering whole-heartedly into the fun: there were masquerades, charades, and delicious hot chocolate. The doctor often retired to his study to work and read. His description of aphasia took many nights of

work. Absorbed in his thoughts he once twisted a wisp of hair so tightly round his finger that it had to be cut before he could get it off.

A confirmed practical joker, Jean had no compunction in shocking people. One day he went to the Château de Madrid, a fashionable restaurant, in the gardener's cart drawn by Saladin the donkey, carelessly throwing the reins to the astounded groom in the midst of the luxurious turn-outs of all the smart women. And one afternoon Jean was rowing quietly along in a small boat on the Lac Saint James, accompanied by an elegant young lady. Suddenly a crowd collected on the bank : a dispute had broken out between the lovers, and the passers-by saw Jean stand up and hurl the young lady into the lake, without her uttering so much as a cry. The police were called, and the crowd grew larger ; Jean burst out laughing. He had no difficulty in proving that his victim was only a scarecrow, wearing his sister's best hat.

As a student, and especially as an *interne*, he had every opportunity for satisfying his bent for practical joking. When a baker dared to sell his rolls at a higher price than his rivals, Jean's friends, one after another, entered the shop : "How much is this halfpenny roll?" each asked, poking the bun with his finger.—"A penny."—"That's too dear," they would say, walking out.

He was arrested several times for disturbing the peace and for other scrapes. One evening three young fellows were taken to the police station ; they gave their names reluctantly. One can imagine the sergeant's amazement : Philippe Berthelot, Léon Daudet, Jean Charcot.

Obedient to his father's wishes Jean sat for his doctor's examinations. In 1888, at the age of twenty, he had to

interrupt his studies in order to do his military service. He was a fine-looking boy, and was nicknamed 'Poumon-Fort'¹ by his comrades. With a view to the future, for which, as yet, he had no definite plans, he tried to harden himself physically. He was always keen on boxing and fencing, and never wore an overcoat. As a medical student he was entitled to serve as an auxiliary doctor. He chose the Alpine Infantry, dreaming of mountains, glaciers, climbing . . . but there were few posts available. Eventually he was told that he would be accepted in the 23rd Alpine Infantry Battalion, on the condition that he brought another auxiliary doctor along with him. He rushed round to see his friend Nogues, an easy-going fellow. "You're going to join the Alpines!"

"What do you mean? I don't want to join!"

"I'm not asking you what you want. Get your things together and let's be going."

Finding it impossible to resist his impetuous friend Nogues gave way.

The journey began well. They drove in a carriage along the shores of the Mediterranean as far as the Italian frontier in search of Charcot's battalion, which was on manoeuvres near Isola; Nogues' battalion had been held up near Marseilles by an epidemic of measles. In their stiff cloaks and proud of their plumed caps, the two soldiers set out for the mountain village of Isola in a wagonette drawn by a mule.

"Weren't you right to come with me, old chap? You can't dare to say that you are not enjoying yourself!"

The sky was clear, the mountains capped with fresh snow; the women were wearing their lace bonnets and flowered skirts for the merry-making in the village. They were called 'Messieurs les Médecins,' all the girls ogled them, and

¹ 'Strong lungs.'

the urchins thronged round them. Jean 'feels as though he has stepped into the shoes of a soldier who has just left home for the first time.' Every day he wrote home a kind of chronicle letter, signing himself: 'Your wonderful son.' The manœuvres continued into July, when he celebrated his twenty-first birthday by entertaining the N.C.O.s and his friends to dinner.

During these weeks of outdoor life the explorer in him shows itself for the first time. His character was formed: all he needed was a few years more for it to mature. But nothing was lacking: he had enthusiasm, a love of open spaces, a man's pleasure in life on the mountain-tops, as well as friendliness and the compassion for human beings which seems to be the rare and wonderful gift of doctors, born of their vocation. And sometimes he would confide his longing for the sea and his disappointment at having to be a doctor to his friend Georges d'Esparbes, 'his eyes meanwhile gleaming like black diamonds in the light of his cigarette.'

Jean resumed the life of a wealthy, happy student. The small circle of friends was re-united. One of its members was a good-natured credulous fellow, Bouchacourt. They were always playing jokes on him. Once they invited him to dinner to meet his 'Imperial Highness the Grand Duke Boris.' The comedy lasted six months. When Bouchacourt had exhausted all his energies on behalf of his imperial friend he discovered that the Grand Duke was only Cuvelier, son of the great grocer, one of their circle of friends. But he was not resentful. Since a certain voyage to Tunis in 1880, when Jean had scared him by looking through his porthole

after climbing down the hull of the ship, he had been accustomed to being teased.

Before becoming an *interne* under his father, and then lecturer at the Nurses School of the Salpêtrière, Jean was an *externe* at the Saint-Antoine Hospital, and during that time he was the leader of a gay set. The *internes* of the different hospitals carried on an unceasing friendly warfare. At this period a student was no mournful creature, prematurely anxious about a hopeless future, haunted by fears of unemployment. He was satisfied with little, and was always pretty well sure of having it. He lived from hand to mouth. . . . 'Carpe Diem' was the motto of many a Bohemian living in a Paris attic.

The Charcot family continued their travels. In 1891—Jean was twenty-four—the professor and his children went to Moscow to stay with the Poliakovs, who built the first railway between St. Petersburg and Moscow. True democrats at heart, the Charcots were indignant to see the cook kept up all night near the blazing stove to attend to their wishes, and to see that the servants slept, fully dressed, on the floor of the corridor.¹ Charcot was at the peak of his fame. He had been to Russia once before, in 1873, when he had been summoned by the Czar.

It is Léon Daudet who tells us of the sudden pain, forerunner of death, which gripped Charcot when he was at the height of his power. They were celebrating New Year's Eve at Boulevard Saint Germain, the professor as usual was joining in the merry-making of his children and their friends. All at once, as he was going up to his room, he groaned deeply, pressed his hand against his chest and, his face suddenly pale,

¹ Charcot's house was one of the few in Paris with a bathroom for the servants.

fell into an armchair without a word. Sentence of death was pronounced by a great heart specialist, who told Charcot, however, that he was only suffering from gastric trouble. He gave him two years, or two and a half at most to live.

In the August holidays of 1893 he decided to visit Vezelay with his pupils Debove, Strauss and Valery-Radot, Pasteur's son-in-law. According to his usual custom he prepared for the journey in his own way, that is, by visiting the Trocadero museum to see the model of the famous Basilica Gate, and by reading. He was quite ready to teach the guide at Vezelay something.

Wearing a bowler hat, a 'Lavallière' knotted round his neck, his walking-stick in his hand, he joined his young friends, still his own ironical self. He was greatly impressed by the sight of the Basilica, rearing up in triumph on the hill. When the others tried to help him during their climbs, he would refuse: "I'm not as ill as all that!" Whenever he saw a house shut up he would say: "There you are, good people living there in peace surrounded by things they know, and now probably sent to take the waters by some idiot of a doctor!"

The caretaker opened the iron gates and the full view of the great Basilica gave the artist in him a feeling of deep satisfaction. He was moved by the dark corner to which poor sufferers used to be relegated, and from which the altar was totally hidden. Then he made a tour of the building. "It is strong and brutal, like a citadel or prison. 'A curse on the unbeliever!' these walls seem to cry out," he said.

As they went by a cemetery the conversation took a serious turn. "As far as I am concerned," he said, "there is a God, but He is very far away, very vague."

In the evening they put up at a simple inn on the shores

of the Lac des Settons. They hoped on waking in the morning to see a glorious sunrise over the lake. . . .

In the middle of the night Debove was suddenly awakened by a light tap on the wall. He went into the next room. Charcot was sitting down, his hands clenching the arms of his chair, foam on his lips : he was in agony. Half an hour later he was dead, choked by an œdema of the lungs. The staircase of the inn was so narrow that the coffin had to be let down out of the window by means of ropes.

The old patients at the Salpêtrière mourned their doctor as if he had been their god, and kept watch over his body. According to the wishes of the great specialist there was no funeral oration. He had long ago weighed up the emptiness of human eloquence and any praise after his death would not have made up for the pain he had suffered through so many unjust attacks during his life.

From now on his son was left alone to maintain the brilliance of the name of Charcot. His great grief suddenly wrenched Jean from the enjoyment of a happy, carefree youth. It left him a man, with two mourning women to comfort.

The Yachtsman

THE blow was so heavy that Jean found it difficult to get over it. His father had been all in all to him : chief, friend and infallible guide. There was no one for whom he felt a greater admiration.

And now he was gone from the familiar study and the hospital which had been his second home ; there would be no more merry evenings, no more marvellous journeys across Europe. Of the great Charcot only a few books, a lifetime's work and a toga-ed statue in the Salpêtrière remained, and an illustrious name. Jean guarded that name jealously.

One evening an actor at the Comédie Française was playing the part of the great neurologist in Brieux's 'L'Évasion' ; he was made up to resemble Charcot. Jean rushed furiously to the director's study : "You know who I am ? If Prudhon has not changed his make-up to-morrow the performance will be interrupted !" So Prudhon added some side-whiskers.

"You are going to be a doctor," his father had said, and Jean had obeyed. He took his doctor's degree in 1895 at the age of twenty-seven. He had published a thesis on *La Polyomyélite antérieure chronique* and, in collaboration with his friends Blin and Collin, *Tuesday Lectures*, a summary of his father's teaching. He was Raymond's *chef de clinique* until 1897 ; then, leaving the Salpêtrière, he was for three years at the Pasteur Institute, with Roux and Metchnikoff,

working on the problem of cancer. He even became infected himself, but cured himself at sea.

But now there was no longer any reason to resist the imperious call which urged him towards the sea, not from any wish for amusement, but with a desire to serve. He did not yet know in what way he could accomplish this desire ; before all else he had to learn his trade, forge his tool.

Few men have been so profoundly influenced by their fathers. His youth and his whole life were dominated by the will to be a successor worthy of the glorious name he bore, and a modesty which made him feel that he would never be able to do more than live up to it.

"As a doctor I should never be anything more than the son of the great Charcot," he would say to his friends, and Léon Daudet's sarcasm only strengthened this conviction. The two friends sat together for their *internat* examination. Jean passed, Daudet failed. "Jean only passed because he was Charcot's son," Daudet said, and Jean, cut to the quick, broke off what had been a friendship since his childhood days. He was deeply wounded. And it is characteristic of him that he should feel that need of loving sympathy and understanding common to all unassuming natures. His belief in himself was strong enough to force him to act, but he was always afraid that he had not done enough. 'Being my father's son, I wanted to be more than the son of my father,' he wrote later to a friend.

Both instinct and his longing to distinguish himself impelled him to become a sailor. He had sailed with the pilots at Ouistreham in their squat little boats with tawny sails, climbing up the rigging and joining in their songs. Ever since he had been at the École Alsacienne he and his friends had sailed monotypes in the regattas on the Seine at



The 'Pourquoi-Pas?'

(P. Drach)



THE 'COURLIS'

Asnières, Meulan and Petit-Gennevilliers. A year before the death of his father Jean had bought a real sea-going yacht, the *Courlis*, an eight-metre fifty-sloop, and had joined the Union des Yachts Français. He felt for the first time the joy of being master in his own ship, of hoisting a flapping sail up to the sun, of feeling the trembling of a well-varnished hull, of his hands on a responsive tiller. He gave a shout of happy laughter when, on the first trip, the bowsprit dipped in the foam and his little boat was caught up by the swell. . . . He was sailing to the conquest of a new world as he had in his childhood's dreams. Only after many attempts and struggles would he reach his new world, after many a day.

First he had to become a good sailor. Here circumstances were in his favour, for he did not have to worry about earning a living, his father had left a large fortune. His mother had refused to take any pension from the government. Jean sold the *Courlis*, the plaything of a summer, and bought his first real ship, the *Pourquoi Pas ?* He had always dreamed of giving that name to a ship, it sounded resolute and seemed to defy misfortune. It is, one feels, in sympathy with the motto of Saint Malo : 'Let who will complain, it shall be so.'

Paul Morand has said that to build is an act of faith, and this is as true, if not truer, of a ship as of a house. This act of faith was embodied in a fifteen-ton cutter, sixty feet long, a gallant craft in regattas. Fashion favoured English yachts, but Jean insisted that his boat should be entirely French in construction. He designed his black and white flag with its question mark, later to become world-famous. He was too impatient to wait until the following summer and started cruising along the coast of Normandy in March, taking part later in all the regattas at Le Havre, Trouville and

Dinard. He issued a challenge, like the fiery summons to the tourney by a knight proud of his charger :

'I, Jean Charcot, owner of the fifteen-ton yacht *Pourquoi Pas ?*, belonging to the Union des Yachts Français, built and rigged in France, and manned by a French crew, challenge all yachts between ten and twenty tons, foreign or French, to a non-stop race over the following course : starting-point at Le Havre, tacking round the buoy at Cowes, to Cherbourg and returning to Le Havre.'

His friend, Doctor Mcige, said of him : "He leaves on a cruise as though it were a crusade." But soon sport and regattas, though he kept on with them for the sake of training, were not enough to satisfy him.

At this time Jean met at Dinard, and fell very deeply in love with Jeanne Hugo, a granddaughter of Victor Hugo. Jeanne was a beautiful fair-haired woman, who had been married to and then divorced from Léon Daudet ; owing to his quarrel with Daudet Jean had not seen her for many years. In 1896 they were married and for some time lived in the old family house in the Boulevard Saint-Germain.

Madame Charcot, Jean's mother, had lost her memory ; her mind had left her children many years before life left her body. When two years later Jean agreed to go to Egypt with Mr. Vanderbilt, the American multi-millionaire, as his doctor, in the same way as his father had accompanied the Foulds, he wrote his mother cheerful letters about his travels. When their steamer the *Catania* put in at Naples : 'Even all this rain cannot put out Vesuvius,' wrote Jean. 'It continues to belch forth boiling lava—a display which must cost Cook's a lot of money !' And Jean tells how he saw in the New Year on the bridge of the ship. Without a word, he had gripped the officer's hand at midnight. . . . 'He an English-

man, and I a Frenchman, and we were probably thinking the same thoughts. One thinks more during the night, in mid-ocean, alone between sky and sea. I was thinking of past years, of father, quite close to me there in the great solitude of the sea.'

Jean, like his father, was never worldly. He was of a sociable nature and liked to be with his personal friends and to arrange parties with them, but he had a horror of 'Society' and its unfeeling superficiality. Contemplation and thought were always uppermost in him as soon as he was alone, and then his mind would soar beyond distant horizons, beyond the mighty seas, towards the Infinite. He never abased himself with the debauchery which was wrecking the youth of that period. The intensive and intelligent atmosphere of his old home, which he had loved more than anything else, saved him from that. And perhaps, too, he had been helped by the tenderness of a fleeting union, cut short by death, which left him with a little daughter, Marion, and he had her brought up in his family.

When they arrived in Egypt he went up the Nile on Vanderbilt's dahabeeyah as far as Assuan. He was quite reconciled to the idea of river-sailing: 'We are going aground so pleasantly the whole time!' As they advanced into Upper Egypt the delicate countryside with its soft pastel shades became austere and harsh; mysterious temples kept watch on the threshold of the desert, rocks and tawny sand alternated with cool oases. Jean often left the beautiful lazy river, the boatmen's songs, the lofty sails, to tread the sacred soil of the Pharaohs, and of gods with monster-faces. At once he was in the desert, in Africa, solemn and cruel with its parasites, the wretched Bedouins clad in rags. A pure breeze was wafted from the great lakes and virgin forests

THE YACHTSMAN

of deepest Africa. Jean breathed it gladly ; he was far from Cairo with its bluster and palaces. He remembered a similar impression : the great wastes of snow on the Alps, the other desert—that of the glaciers . . .

He had no liking for hot countries, in spite of his southern looks.

From that time on he was to make for the north, for he had resolved to undertake real voyages. A 110-ton schooner the *Aline* was converted into a second *Pourquoi Pas ?* She brought him nothing but disappointment, and the flag with its lucky name was transferred to another schooner, this time made of iron. He tried her out on the canals and coasts of Holland, steering her himself among the sandbanks and through the locks, without once taking a pilot on board. In the summer of 1899 he made a 1,200-mile cruise in the former boat, visiting Penzance, Lundy Isle, Milford, the Isle of Caldy, Cardiff, Penarth and Guernsey. He never forgot the splendid return crossing from the Lizard to the Channel Islands, when, with a fresh following wind, he covered 100 miles in nine hours. The following year he made a 1,700-mile cruise round Ireland. It was a bad season, there were terrible storms, but Jean was glad of it ; he wanted to get into training, to gain experience as a navigator. He realised that his cruises, though they were important undertakings for a yachtsman, were for him only stages in his career as a sailor.

Heading North

IN the summer of 1901, after serving his compulsory twenty-eight days' naval service on board the *Bouvet* the year before, Jean Charcot ventured further afield. He had always dreamed of the fantastic archipelagos in the lands of mist of Scandinavian legend, and, in spite of the bad weather, he set out. He always declared that he liked foul weather as it gave him the chance to show what he was worth. 'After the slight but unpleasant swell of the North Sea come the mighty, ceaseless rollers of the Atlantic.' The cradling of the rocking seas, and the tantalising mist, were always dear to him. No one on board had any knowledge of the regions into which they were venturing. He was to endeavour to amplify the Nautical Instructions, and, indeed, brought back a whole guide illustrated with photographs and sketches, which was published by the Yacht Club in their first Bulletin.¹

When Charcot was asked what he intended to do he replied that he was going to see whether there really was measles in the Faroes, "because in our examinations we always had to reply that measles had been brought there by a ship and that the epidemic became very serious because the malady was at that time unknown there." "And," he would add, "it is one way of making a tour of the British Isles and trying to find England's moorings. With any luck

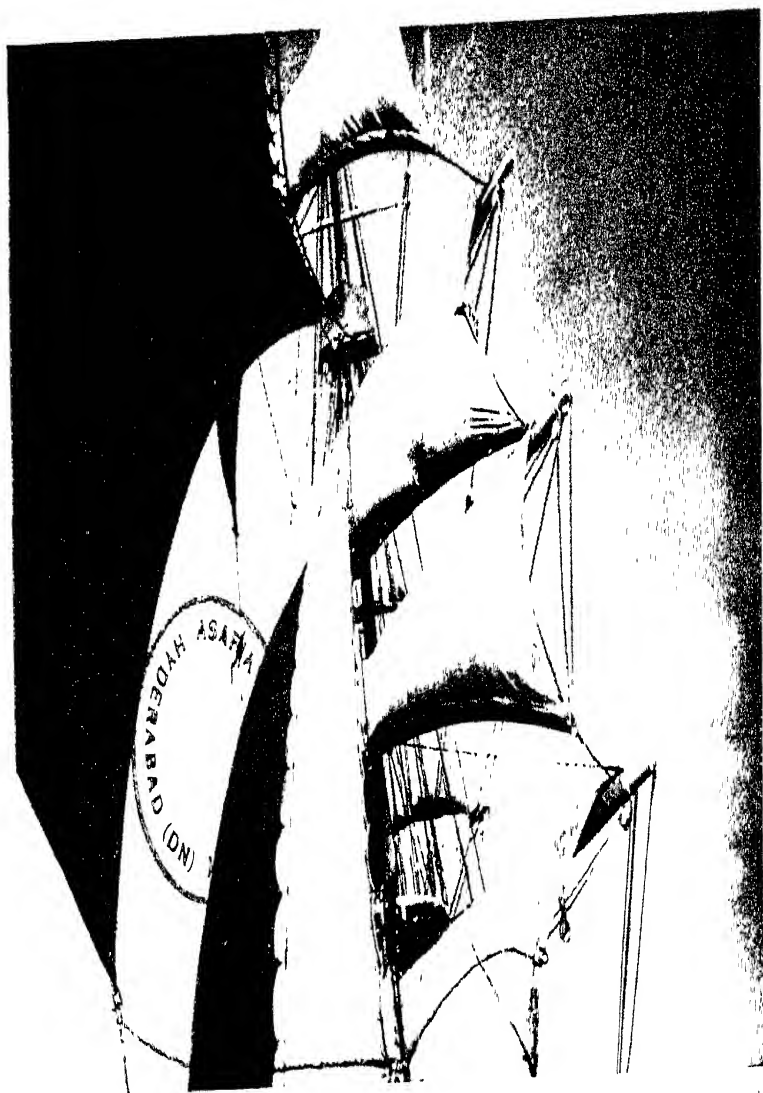
¹ Published by La Société d'éditions géographiques, maritimes et coloniales, in 1934 under the title of *Voyage aux Îles Faroë*.

I shall be able to cut them, and send the great island to the devil !”

He set off for Le Havre with a chronometer in one hand and a host of little parcels in the other. The *Pourquoi Pas ?* lay gleaming in the sunlight, with a fresh coat of paint and her brass-work dazzling. With his new dinghy and his steam-launch *Turgau* he set sail, towed by the *Esperance* . . . a good omen !

The young captain was with trusted friends : M. Casella, who twenty-eight years before had given him his first inkling of sailing, on the Lac Saint James, his friend Fauvelle, and Cholet, the sturdy Breton who had been with him for ten years. They also carried a mongrel poodle dog, dirty white and black, who barked at the mention of an Englishman, and could smoke a pipe and wear a hat. The crew were in such high spirits that even the misty forbidding Scottish coast and Fair Isle, that island of shipwreck between the Orkneys and the Shetlands, could not dampen their gaiety. Rain fell unceasingly.

They reached the Shetlands : eighty-five islands, of which only thirty are inhabited. ‘They are interesting even if one does not play golf or go trout-fishing.’ And for the first time Charcot experienced the endless daylight of the North. They sailed along narrow channels in the deep fjords, bordered by red and black cliffs. Inland they could see the white-washed houses with their thatched roofs and the sheep grazing on the hills between the turf-pits and the lakes. The inhabitants are descended from those Norsemen who, about A.D. 900, preferred exile to the domination of Harold Harfager, the king with the beautiful hair, the unifier of Norway. The men fish for herring and haddock, the women, their hands protected by strips of leather, cure the fish.



Topsails

(P. Drach)



The rare meetings between the *Pourquoi Pas?* and other vessels were much appreciated; their crews were rough, good-hearted fellows; no one would go to those latitudes for pleasure. First they met a French fishing-patrol boat, the *Sentinelle*. The skipper came on board and introduced himself. He deserved a halo, this Breton, for when Dutch fishermen were in difficulties with their boats he lent a hand without accepting any payment, and shortly before they met he had saved a German sailor from shipwreck, and taken him to the district hospital. 'But would you believe it, he went and gave up the ghost all the same. So we four followed his funeral procession in full dress uniform. He only had us, you see!'

Then once again they were in the mighty swell, the bitter wind, the squalls and mist. Somewhere lying hidden behind the curtain of tantalising mist were the Faroes of magic name. Here was the first, Naalsole. 'These vast shattered pyramids seem to hold up the sky.' They looked fantastic, and the men gazed spellbound from the ship's deck. Charcot grew lyrical: 'Between these pyramids, the fjords; some in the west, red as a glowing furnace, lit by the setting sun, others tinged with a steely blue, lit by the rising moon. And this blue and red, making the sky seem grey and the mountains blacker than ever, gradually laid their rainbow hues on the waters, till they merged and died away in the open sea.'

Naalsole! . . . In Scandinavian legend it is the home of the 'Kraken,' the monstrous stag-headed fish, armed with tentacles. 'Here landed the Vikings from their gondola-prowed "femtansessan," using their shields as bulwarks. They braved the dangers of the sea, trusting in their dragon emblem.' Charcot already knew something of the history

of the Faroes, and his friend Sottas had told him the story of the seventeenth-century monk, Magnus Heinessen, who became a corsair, gave chase to English and Turkish pirates, and was given a corvette by the King of Denmark. He fell into the hands of the English, who hanged him in 1589 for piracy, and then rehabilitated him—after having rid themselves of their adversary ! ‘The songs and dances to be heard in these islands on Sunday evenings perpetuate the memory of this popular hero,’ noted Charcot.

Charcot awoke from his reverie : ‘Fauvelle, do you remember Admiral Bienaimé prophesying that we should never reach the Faroes in our schooner ?’

When the mist lifted their impression of the fantastic disappeared, and there remained only ‘a sight both sinister and smiling . . . bare mountains, terrible rocks, steep cliffs more than six hundred feet high which, wherever a little earth can cling, clothe themselves in grass of a wonderful emerald green, on which graze hundreds of wild sheep.’

The clergy have to visit their parishioners by boat. There are a few towns on the shore, linked only by the sea, and ‘the houses are tarred or, for the important people, painted red or yellow, and roofed with clumps of turf. They look like Norwegian houses, those of Peer Gynt, or of Johan Bojer’s heroes.’

Charcot gives an entertaining description of how the inhabitants arrange their lives. ‘The town policeman deserves a few lines. In this country where crime is unknown, there are twenty-two inhabitants who take it in turn to act as town policeman for twenty-four hours.’ Then they don the uniform of black cloth decorated with gilt buttons, a sailor’s cap, and carry a sword. ‘Parliament assembles twice a year, the more important session being on Saint Olaf’s Day, he is

SAINT OLAF'S DAY

the patron saint of the Faroe islanders. 'The members, sitting round an iron horseshoe table, talk peacefully, and the debates are singularly flat, as there are no political parties.' Charcot was very fond of these simple, loyal people, in their coarse brown woollen clothes, wearing weird theatrical tam-o'-shanters with red and blue stripes, which fell to their shoulders. He loved to watch them handling their pointed dinghies with Viking foresails. Ashore their life was ordered according to whether it was raining or the sun shining; when they allowed themselves to get drunk, it was on fermented barley. One day Charcot poured out some white wine for the pilot. "I am not used to drinking so much whisky!" he cried.

"But it's wine!"

"Oh, no! I know very well that wine is red!"

Happy country! Money was unknown there until less than thirty years ago. The entrance charge to a dance used to be a smoked herring. If some dispute were to break out over a sheep, a friendly settlement was quickly made, for, said the inhabitants, "Is a sheep worth a quarrel between two men?"

At Klaksvig, another 'big town,' Charcot went to see a wall built out of dolphins' skulls, which seemed to look like mocking human faces. In the little pink house of the town doctor Charcot suddenly turned away his head, with tears in his eyes. It was the anniversary of his father's death, and he had just noticed a print of Brouillet's picture on the wall. Memories overwhelmed him. . . . Would he be able to keep to his vow to make himself worthy of the name left him by the great Charcot? He had already left the beaten track, but things were still too easy for his liking.

Yet navigation was difficult. 'One day we were obliged

to have a man to every sheet, and struggled for twelve hours, being forced eighteen times to let the sails down as best we could, the boat listing over until half the deck was under water.' 'Without taking into account the risk of losing our masts, if we miss stays by a fraction of an inch we may be hurled against the sheer cliffs. The strength of the current and the wind is terrific ; fish can be found hundreds of feet up the cliff, thrown there by the tremendous seas.' In some of the villages perched on the tops of the cliffs boats are hoisted up with tremendous difficulty, and moored up there.

For Charcot it was not enough to struggle with the sea, he also undertook perilous excursions, climbing up the beds of icy torrents, and scaling crags, watched by the amazed inhabitants, for, like the Icelanders, they would not venture across the mountains, but would skirt them by going round the shore.

On deck Charcot would relate to his companions the island legends and the Bretons, ever delighting in the mysterious, clustered round him.

"You saw the web-fingered man at Thorsavn? He is one of the descendants of the seal-woman.

"Long ago there was a land in the depths of the sea where the people lived in happiness. Sometimes they came up to the earth to take a walk, and to do this they would climb on to the back of a seal, and the seal would wait for them on the shore. But if, by some unlucky chance, the seal was shot and skinned, the visitors could never go back to their underwater kingdom.

"One day a young man, using his rope to help him hunt birds, happened on this secret. He saw three seals bring two men and a woman to the beach. The woman was wonderfully beautiful. Every day he lay in hiding and

watched her walking along the shore. ' One day, restraining himself no longer, he ran up, killed the seal and carried off the stranger. All her supplications were in vain, he would not let her go. He made her his wife, and she bore him very lovely children, but they all had webbed paws instead of hands and feet. Her sea-green eyes were always filled with longing for her underwater country and for the husband she had left there. And one day, hiding from her earthly husband, she watched on the shore for one of the seals, leapt on its back and dived away for ever. Poor Hans, inconsolable, died of grief."

The noble poetry of the Faroe legends seems to have had an effect on Charcot's style : in his log-book the light-hearted Parisian becomes solemn, almost romantic.

The return, though exciting, was accomplished without accident. They had covered 2,260 miles in six weeks—to the admiration of English yachting circles. And Charcot, thinking of his previous joke, ends his account thus :

'We have carried our national flag and the pennant of the Yacht Club de France to countries where they are rarely seen. Once again our avowed intentions have been accomplished. But our secret plan, that of cutting England's moorings and sending her to the devil, has not come off!'

The First Scientific Cruise

THE 'ROSE-MARINE' AT JAN MAYEN

IN the winter of 1901-2 Jean Charcot, in collaboration with Clerc Rampal, published a handbook called *Everyman's Navigation*. He explained in the preface that the work had a twofold object. First, 'To enable those whose only mathematical accomplishments are addition, subtraction and multiplication, to learn navigation'; secondly, 'To serve as a handbook for those who know, but who may forget.' The study of navigation is presented in the form of questions and answers.

The idea was entirely his own, and Clerc Rampal tells us that he only helped Charcot in the writing of it. 'When we left the dinner-table he carried me off to his study, presented me with a mountain of papers, and, with his charming frankness said: "There you are, old boy, the whole cargo of my notes and skeleton chapters; do what you like with it, take it to pieces, put it together again, finish it. . . . I'm going to look for a publisher." . . . And using the traditional expression of officers handing over the watch: "A vous le soin," he said.'

This clear and straightforward treatise became a set book for pupils at the Naval School of the Argentine Republic, and officers of the French mercantile marine used it when working for their captain's certificate.

The following summer Jean wanted to try to reach Iceland

and Jan Mayen Land, with M. Denfert Rochereau's *Harlequin* as convoy. He had sold *Pourquoi Pas II* and bought a 214-ton iron schooner, the *Rose-Marine*. He felt that the time had come when he could give his cruise some scientific aim. The Ministry of Marine commissioned him to study the whale-fisheries and the hospitals provided for the fishermen, and, in addition to this, the Austrian Government, interested in Jan Mayen since the 'Pola' expedition, put certain questions which he was asked to answer: first, was the crater of Egg Island extinguished, and secondly, was driftwood still washed up on the coast? He took with him an instrument of his own designing for making researches into the causes of cancer, and was accompanied by a collaborator, Jean Bonnier, director of the laboratory of Wimereux.

Jean had hoped that his wife would share his love of the sea, but his hope was disappointed. She much preferred sailing on river barges! But he felt that he could not possibly forego his cruises, which were reaching further and further afield. Georges Hugo and his wife Dora were to use the lovely cabin that had been meant for Jeanne on the *Rose-Marine*.

All sails set for the North! Once more the grey swell, the bitter wind, the grim struggle. Charcot's enthusiasm only increased. 'I love this country more and more,' he writes. 'No disillusionment—on the contrary. The first day we were lucky enough to have a snowstorm—a touch of true local colour.'

His companions shared his enthusiasm. 'An incoherent, unworldly apparition bounded into my room,' wrote the lady passenger, 'and in my half-awake state I saw it was Jean, and understood: Jan Mayen!' They rushed on deck to see the strange island. As they drew nearer they had a

vivid impression of the desolation, grandeur and beauty around them. An immense glacier on the Beerenberg, which was showing its 'noble white head above the clouds,' seemed to forbid their approach. But they managed to lower a boat and sail along the coast to the seven rocks, in spite of the surf, and landed in Mary Muss Bay. Dora Hugo leading, they stepped out on to a vast beach of black sand into which they sank up to their knees, a beach strewn with driftwood, 'looking like gigantic bones.' Dora writes : 'Sometimes the long stretches of lava enabled us to keep our balance. An amphitheatre of lofty mountains, covered in snow, encircles a sombre plain. We walked for three hours in a tearing wind and a snowstorm, our faces torn by the icy needles, utterly exhausted but so enthusiastic that our enthusiasm lent us strength.'

On July 18th Jean wrote to his sister Jeanne : 'We are leaving Jan Mayen as easily as though it were Monaco : I spent my thirty-fifth birthday on the island.' For the first time a French boat, Charcot's *Rose-Marine*, dressed overall, celebrated July 14th there, the Austrian flag at the masthead.

Heading for Iceland ! His crew was ready to follow Charcot to the North Pole if need be. He put in for the first time at the little port of Akureyri for coal ; he was to see it many times again. That week he made his first acquaintance with pack-ice. In a letter dated July 25th Jean writes : 'We have just made a tour of Iceland, on our first attempt we were held up by pack-ice, but twenty-four hours later we went back and got through. I brought some back with me, and we have used it to ice champagne. This is the most wonderful trip that anyone could make.'

Dora Hugo writes : 'Three days of mist, very much *à la* "Pêcheur d'Islande." Iceland looks wild, desolate and snowy.

We visited the *Saint Pierre*, the French hospital-ship for fishermen, and now we are setting out on a trip with the French consul Doctor Belam, and his servant Auguste, on eight ponies. The eighth pony is carrying the tooth-brushes and slippers. I am scandalising the whole population by riding astride.'

The strange contrasts of this 'island of ice and fire' were gradually revealed to the visitors. There a volcano, which awakens from time to time, and near by a glacier, the largest in Europe, the Vatna Jökull; snow on the mountains and boiling water in the falls; rocks bristling like the helmets of Burmese princes, and plains with tranquil lakes; wild overgrown valleys, barren heaths and, suddenly, pleasant villages washed by the Gulf Stream gay with tulips; very poor peasants but books in every farmhouse; a race proud of their descent from the Norwegian aristocracy who rebelled against Harold Harfager, crossed with Celts from the Hebrides. A small community who, forgotten in the rupture between Denmark and Norway, took the opportunity to declare its independence, and which continues to speak the purest Scandinavian.

Still on their ponies the travellers were taken to the Gullfoss, the golden waterfall, which Charcot said he was sure was better than Niagara. As evening approached and the sun gilded the foam, two rainbows appeared above the chasm like a magic bridge. They were particularly looking forward to seeing the famous geysers, which leap up to a height of about 200 feet. They had not heard how temperamental the geysers could be. It was no simple matter like the mere turning on of a tap—sometimes the geysers would sleep for twenty years, but usually one would consent to give a display of all its splendour every two or three days. Sacrifices have

to be offered—they are monsters feeding on . . . soap. Pounds of soap have to be thrown into the maw (a small crater) and after some time for digestion the eruption is announced with a sound like a thunder-clap. Boiling water overflows from the crater and spurts violently upwards, tinted a myriad rainbow hues by the sunlight.

There is an eighth wonder of the world in Iceland—Thingvellir, whose name is spoken with every sign of respect, an immense lake encircled by mountains : in the north a diadem of volcanoes : in the south columns of steam spurting ceaselessly from the sides of Mount Hengill. It was in these majestic surroundings, out in the open, that the Parliament of Icelandic chiefs used formerly to meet. All the surrounding rocks bear symbolic names : Everyman's Crevasse, the Rock of the Laws, the President of the Alþingi (Parliament).

Such was the rugged country that Charcot grew to love so deeply for its primitive grandeur and its solemn poetry, without foreseeing that one day it would be his grave, and that the last he would see of this earth would be the harbour of Reykjavik, hospitable and lovely, with its lofty mountains and their lingering snow. . . .

The *Rose-Marine* had done well. She brought back information on the 'Countries of floating ice,' on the so-called steam of the Jan Mayen volcanoes which in reality is dust whirled into spirals by the wind ; studies on cancer, leprosy and a disease affecting sheep, and on fishing in the most northerly regions, and had a fine collection of five hundred photographs. It was a good harvest, and the young navigator established a reputation for himself outside the boundaries of the yachting world.

He returned on August 19th. He came back to domestic difficulties which affected him very deeply, and which were

to have a decisive influence on his future. He forced himself to joke about it : 'The fortune teller was right ; I was born under Saturn, but all the same I ought to have been happy.'

'I would give 500,000 francs—which I don't possess !—to be less romantic, but unfortunately we cannot change our natures.' The vigorous sailor was to be tender-hearted all his life, never trying to hide his feelings behind cheap cynicism.

The discord between him and his wife had increased ; he was forced to admit it, though it broke his heart. No one is to blame for the harshness of Fate ! In weaklings, and in women, moral suffering may paralyse the desire to act and love of life ; but in the strong, and Charcot was among them, grief is sometimes a stimulant. Urged on by an imperious vocation and by a desire to accomplish something worthwhile, he felt an increasing desire to undertake a great expedition into the domain in which France was in danger of leaving no worthy mark : the Polar regions.

The Eve of Departure

CHARCOT's mother and father were both dead, and he could no longer be sure of his wife's love. Nothing and no one prevented him from facing the destiny of which he had often dreamed, that of setting off on a great adventure of service, and if need be, of sacrificing his life to his ideal. He was to set off 'as if on a crusade.' His friend Meige had judged him accurately.

His sisters were both married. Marie, the elder, had married the lawyer Liouville, by whom she had a son. After a few months as a widow she had been married again, this time to Waldeck-Rousseau, a tall, distinguished and silent man. After her father's death his sister Jeanne had married Alfred Edwards—one of the most widely known men in Paris. His fortune was proverbial. He had founded the daily paper the *Matin* and then, to annoy his brother-in-law Waldeck-Rousseau whom he did not like, he started a socialist newspaper, the *Petit Sou*.

Jeanne had kept her youthful love for amusing and original parties, and she was one of the first to own a river-barge—the *Dame Jeanne*. Her balls were famous. At the Playing Cards Ball, at which she appeared as the Queen of Hearts, Jean came as a Moorish King, accompanied by Sigurd, the Great Dane, disguised as a lion with a false mane. Jean was nearly arrested in the street on the charge that 'the transport of wild animals in cabs is not allowed.'

The age which Paul Morand has analysed and scourged in his book *1900* was at its height. The precious period, neurotic and apathetic, the 'golden age' 'blinded by its monocle' which believed in nothing but tried everything once, when 'le footing en tube et en jacquette'¹ was in vogue, this was the period then reigning over Paris. The Exposition Universelle marked its climax. Jean might have led the life of a man-about-town, a life which still seems a paradise to those who have experienced it. He might have left us the memory of a decadent beau, the idol of hothouse ladies—those belles whom Boldini has so well portrayed with their careless charm and touch of melancholy; kiss curls peeping from under the fantastic brims of their hats, sable muffs, slender waists touched up by the painter to look slimmer still!

In this excessively refined and stifling atmosphere Charcot's robust personality created a sensation. He had only to appear for everyone to feel that the windows had been opened on to the seas. He was not one of those who failed to distinguish between the Palace of Ice and the North Pole. He wore, all unknown to himself, the aura of those whose ardent lives impel them to a wider destiny. He astounded a world stifling in its comfortable mediocrity. He could not forget the creaking of the masts and the groaning of the winches, the whistling of an Iceland wind in the steel shrouds. His determined, burning eyes seemed to hold memories of the pitiful conditions for the cod-fishers, their wrists chaffed by oilskins and salt, their dories capsizing in the fog. He thought of polar deserts, of unexplored pack-ice, of unknown reefs holding the daring whalers prisoner. A domain to be conquered for France, a moral conquest surpassing victory by

¹ Walking in top-hat and morning-coat. 'Footing' is one of the many pseudo-English words introduced into French at that time.

force of arms in beauty and in duration. He had every advantage that wealth could give him, and could have obtained any privilege he desired. But he preferred a hard life and stark reality ; he set out on a hard road and climbed unflinchingly to the summit of his ideal.

* * *

The beginning of the twentieth century had seen four great expeditions setting out for the South Pole, or the Antarctic : Scott on board the *Discovery* for England, Erik von Drygalski on the *Gauss* for Germany, W. S. Bruce, a Scot, on the *Scotia* and Otto Nordenskjöld on the *Antarctic* for Sweden. France was taking no part in these attempts at exploration, which were at the same time something of an international contest. Yet Frenchmen had been the first to attempt the discovery of those regions.

Bouvet's *Aigle* discovered the first Antarctic lands in 1738, and five years later Kerguelen-Tremarec, with his brigs the *Gros Ventre* and the *Fortune* discovered the islands which bear his name. A hundred years after Bouvet's voyage Dumont d'Urville discovered the lands now known as Louis-Philippe, Joinville, Adélie and Clary. No one had followed in his steps.

Jean Charcot resolved to carry on the work of these pioneers. He urgently needed money ; he would have to get a boat and a crew, and if possible be entrusted by the Government with a definite mission. It was true that he had a personal fortune, but it was not as considerable as was generally supposed. He had received a sum of 400,000 francs on the death of his father. Among the works of art which had gone with him to 80, Rue de l'Universite, where he was then living, was a Fragonard, *Le Pacha*, which, if sold to the right person, would complete the sum he required. He determined to sell it.

In England expeditions then had considerable resources at their disposal, thanks to subscriptions and well-organised press campaigns. Public interest can always be aroused if information is properly given. In France any scientific matter has to be guarded in jealous silence, and it is considered good form for scientists or explorers to fail from lack of money, rather than to solicit the interest of those who could provide them with means. Charcot resolved to employ the English method, in so far as it could be useful to him. Later, however, he fled from personal interviews, and never allowed professional cameramen on board his ship. He had nothing to do, however, with the writing of a certain article which appeared in *L'Intransigeant* early in December 1903, which stated :

‘GOOD BLOOD ALWAYS TELLS

‘We learn that Doctor Jean Charcot, son of the famous professor at the Salpêtrière, is planning an expedition to the North Pole. He wants to take the French flag back to the regions from which it has been absent since the death of Blosseville,’ etc.

That afternoon a young engineer, Paul Pléneau, was idly turning over the pages of the paper. He stopped short at the sight of the article. He was then thirty-three and was already director of a company engaged in constructing steam-engines. His success gave him a gay reputation. Perhaps, unknown to himself, he was bored with his existence . . . how else explain his sudden attraction to the idea of a great voyage? He went to see Charcot, who was amazed at the unexpected newspaper announcement : “These journalists,” he told his visitor, “know more about the future than I do. It is still only an idea. . . .”

The young doctor’s pleasant manner, frank and candid, won

Pléneau straight away, and Charcot, on his side, thoroughly appreciated the gay spirit in which his visitor offered his services : "I am an engineer, I have a thorough knowledge of steam engines and of the sea. I can't cook, but apart from that I think I could be useful to you. With your permission I will telephone about ten o'clock on Sunday morning, so as to keep in touch with you and know how the plans are getting on."

Charcot smiled and held out his hand : "Right you are."

A great friendship had begun. And Sunday after Sunday the same conversation was held :

"Hullo ! This is Pléneau. I'm still alive and very much at your service."

"No news since last Sunday, we have got no further."

Towards the end of January Charcot got into touch with the Belgian explorer, Adrien de Gerlache, who had wintered in the Antarctic in the years 1898-9 on board the *Belgica*. The doctor had decided to have a wooden boat built, capable of braving the ice, and to try her out in a preliminary expedition to the north of Iceland. He had studied the plans with his friend Boyn, director of the magazine *Le Yacht*, and had decided to entrust the building to the Saint Malo ship-yards. A three-masted schooner, proof against the severest trials, a comfortable home for long months, and equipped with a laboratory, had to be ready in five months' time.

Père Gautier, the head of the ship-yard, put his whole soul into the work. All the materials used in the building were of a quality *three times* superior to that demanded by the *bureau veritas*, the French equivalent to Lloyds. The hull was reinforced at the water-line with transverse beams ; the stem was given a bronze sheathing reinforced with V-shaped ironwork ; and there was a sheath to protect the hull against collisions with ice. The screw, if necessary, could be drawn

up into the ship. To avoid the formation of ice on the inner walls, the foot-walling was lined with felt two centimetres thick. Unfortunately economy had to be exercised in the purchasing of the auxiliary 125-h.p. engine . . . a guarantee of much trouble to come. She was a small ship to venture on such an expedition ! There again the question of economy came in. Tonnage was sacrificed to solidity. She was 104 feet long, weighing 250 tons. As to her name, it expressed her young captain's essentially patriotic aim, she was called simply the *Français*. The faithful Pléneau, a friend from the beginning, had obtained four months' leave for the following summer.

Then came dramatic news. They heard that the Swedish Government was planning to send a rescue-party in search of Otto Nordenskjöld and his ship the *Antarctic*, of which there had been no news since 1900 and which should have returned in 1902. In the international sphere of polar exploration, mutual help is a rule from which no one shrinks. This time it was, perhaps, a means for the quicker realisation of a plan of wider scope. Charcot quickly came to a decision, and communicated it to Pléneau :

April 8th, 1903

MY DEAR PLÉNEAU,

I have just got back from Saint Malo, and it is almost certain that the ship will be ready on June 1st, but by then we will not have made sufficient trials or preparations, and, too, we shall never have got the necessary funds together before the end of April. Under these bad conditions we should run the risk of an unsuccessful expedition, more especially as so much has already been done in the North that we should have to confine ourselves to fisheries and to observations whose only value would be that ours might be more accurate than those already made. I think it best

to postpone our *départure* until July 15th. In this way we shall have plenty of time to make adequate preparations. And then, instead of going North, we should go South ! Don't get excited—keep calm while you read the rest.

To do any good in the North, we should have to penetrate much further, and very probably run the risk of wintering. In the South we are certain to succeed, and to succeed well, for very little exploration has been done and we have only to get there, so to speak, to find something new and to achieve something great and fine. We should run hardly any risk of wintering, and we should endeavour to avoid it anyhow.

We should be at Buenos Aires by the end of October, that is to say in the spring. Ten days later we should be in the ice, where we should work from November to March. As for coming back, we should have to discuss what route to follow, but we could be in France in July—that is, twelve months after our departure—and we should have achieved something great.

Do not mention this to anyone as before announcing it publicly I have a certain amount of personal business to attend to. I hope this will not alter your decision in any way ; I know that I could convince you in ten minutes' conversation. But to reassure me, when you get this letter, send me a telegram to tell me that you are still one of us, and I promise you will not regret it. The North means great risk, the South success. And then I am keeping another surprise in store for you, which, I am sure, will tempt you, but will not alter the above in any way.¹

On your return we will go to Saint Malo and set up our little colony there, so that we can keep the builders' noses to the grindstone.

Hoping to see you soon,
affectionately yours,
CHARCOT.

¹ The search for Nordenskjöld.

Pléneau was in a quandary. If he decided to go he would be obliged to resign his post with his firm. It meant a big risk for his future—but let him speak for himself :

‘I realised that the chance of going on an Antarctic expedition only comes once in a lifetime, that I had known Charcot for four months, I had been the confidant of his thoughts and his hopes, he had put his whole fortune into the organising of this expedition for the glory of his country. I remembered that he had trusted me and become my friend . . . and I hurried to the post office to send him this telegram : “Where you like. When you like. For as long as you like !” ’

A reply of Roman grandeur !

Charcot replied : ‘I was sure of it. Thank you !’

Thus the expedition became the French Antarctic Expedition, under the patronage of President Loubet and of the Académie des Sciences, who adopted the following resolution : ‘In view of the important results achieved in the Antarctic by the English expedition, just communicated to all the Académies of Europe, and in view of the great simultaneous effort being made in these regions by England, Scotland, Germany and Sweden, the Committee of Patrons of the Charcot expedition expresses the hope that France will rally without delay to this great scientific movement which promises to be so fruitful in its results. If Doctor Charcot and his collaborators abandon their expedition to the North in order to adopt this new programme in spite of the added trials, danger and absence entailed, they should have the gratitude of France and of the whole scientific world.

‘The expedition is to go to Patagonia, and from there make for Graham Land and Alexander I Land. Thus the South Pole will be attempted from Victoria Land by the English, from Enderby Land and Kemp Land by the Germans,

from the Weddell Sea by the Scotch, from King Oscar Land by the Swedish, and finally from Graham Land and Alexander I Land by the French.

‘The new French expedition is to devote itself to exploration of the Antarctic continent and to scientific research on oceanography, geography, physics of the globe, and all branches of natural history.’

But above all their object was to join in the search for Nordenskjöld.

Though it was encouraging to be entrusted with honorary missions by learned societies (the Geographical Society, Longitude Bureau, the Ministries of Marine and Public Instruction) yet the scanty contributions were very discouraging. The estimate was very low, and all those going were volunteers, the members of the expedition were honorary, the two naval officers only received their normal pay, and the crew, formerly that of the *Rose-Marine*, asked for nothing extra.

The *Matin* gave them a good start by opening a subscription list which brought in 150,000 francs, and many gifts in kind. In all the expedition had 450,000 francs at its disposal.

The hour of departure drew near.

The 'Français' sets Sail

A SMALL white three-master came alongside the quay in the Bassin du Roi of Le Havre at the beginning of August. She had just completed her first trip from the Saint Malo ship-yards, and her crew¹ were bursting with pride at sailing in a ship that all the newspapers had talked about. The already familiar name of the *Français* was worked on their jerseys.

Soon the Captain, Charcot, and his trusted staff arrived from Paris. His staff included Pléneau, his faithful friend, two naval officers, Lieutenant Matha and sub-Lieutenant Rey, Bonnier and Perez, and an already famous navigator who was to make the journey with them, Commandant de Gerlache. P. Dayné, an Alpine guide, was there, and a young fellow, his face round and shining, followed, carrying the luggage; he was Paumelle, Charcot's steward.

"Are you going to come, Paumelle?" his master had asked him.

"Ah, *Monsieur le Docteur*, it isn't that I like the sea, it always makes me sick and I hate travelling. But what would you do without me? Who would look after your things? I haven't the heart to leave you!"

¹ Composed of E. Cholet, mate; E. Goudier, chief engineer, C. Poste, second engineer; J. Jabet, boatswain; Gueguen, F. Rolland, F. Herveon, A. Beouard, seamen; F. Libois, carpenter-stoker; F. Gueguen, stoker; Rallier du Baty, apprentice in the Mercantile Marine, who distinguished himself again later by his expedition to the Kerguelen Islands.

THE 'FRANÇAIS' SETS SAIL

So Paumelle, without knowing it, set out on the path of fame.

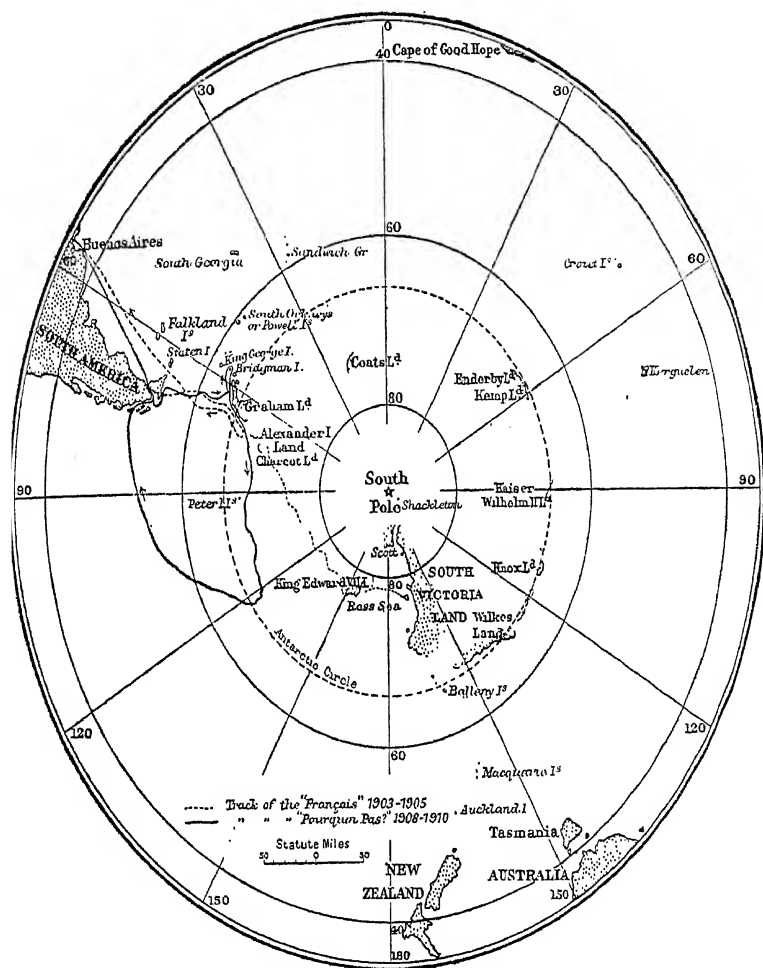
They set sail on August 15th, in bad weather, cheered by a wildly enthusiastic crowd. Charcot remarked to Maignan, one of the seamen, who was standing near the cleat to which the tow-rope was attached: "I wonder what our return will be like after this send-off!" Two minutes later, as the ship pitched heavily, the tow-rope pulled away the cleat. Maignan had been killed. The body lay lifeless on the deck, eyes staring.

With the flag at half-mast they had to tack round and, caps in hand, go back between the breakwaters, where the suddenly sobered crowd bowed their heads before the tragedy they had divined. Charcot himself insisted on accompanying the body back to the little Breton village. There the man's widow repeated again and again: "Monsieur Charcot, Monsieur Charcot, he would have done anything for you!"

A bad beginning, an ill omen for superstitious sailors. One can imagine what the first night on board was like for Jean Charcot. In front of the others he had kept up appearances, by concentrating on the orders he had had to give. But now, alone in his narrow cabin, his head in his hands, he could no longer restrain his grief. Was life which refused him intimate happiness going to refuse him success too? After so much hard work, so many preparations, such high hopes, was he to be held back?

A fortnight later they again set sail. To those who wished him good luck: "Oh, no! please . . . it is bad luck to wish hunters good hunting!"

Her topsails well set, the *Français* sailed down a calm Channel; the beacons they sighted were already familiar



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to Charcot. They passed Guernsey, rounded Cape Finisterre and Ushant. And then they were in the open sea, steering S.S.W. until they reached South America. Their life settled down to the slow rhythm of the Atlantic roll.

With his very human understanding, Charcot had endeavoured, in spite of restricted space, to give everyone on board a small corner which he could call his own. He considered this essential if morale were to be kept high, in view of the almost inevitable clashes which would result from the limited space of their floating prison. Each bunk in the crew's quarters was shut off by a little sliding door, like a Breton bed, and tiny cabins opened off from the mess-room in which the washstands could be used as writing-tables. A hole had had to be made at the foot of Matha's bed : he was so tall that otherwise he could not have stretched out his legs.

The captain's cabin was the only one shut off by a door instead of by a curtain. There was a plaque of 'The Smoking Whale' over the door, cast in bronze by Charcot himself. Lying in his bunk, he had only to open an eye to know what direction they were taking, for a compass had been fixed in the ceiling. The book-shelves were well-stocked with his favourite authors, the classics so dear to his father, and . . . the works of Alexandre Dumas. The lamp-shade was the handiwork of his sister Jeanne, and photographs of his family smiled down at him from his partition wall.

Final details were attended to *en route*, and the laboratory was installed on deck. The boats of the tunny-fishers were left behind, then the cargo-boats which had been so numerous between England and Spain. As they approached the tropics the heat became overpowering. Charcot watched over everything, and kept up everyone's spirits. But he was worried by Gerlache's unhappiness—he had got engaged

before leaving, and did not seem able to get over the separation. Even Pléneau could not cheer him up.

Charcot enjoyed, above all, his night watches. He would climb on to the narrow bridge, and Matha, always punctilious, welcomed him with a quick: "Your watch, Captain!" Then, lost in contemplation of the dark waves and the fringe of spray breaking round the hull, Charcot would lay aside his formal shell and give rein to his thoughts. He loved his ship, the delicate rigging silhouetted against the sky, the feeling of speed, of riding through the night. Beside him, silent, his face lit by the light of the compass, a young sailor struggled against sleep, his hands clenched on the wheel. "Look out, my lad, or you'll be backing the topsail!" the captain would say in his kindly voice. Sometimes Cholet would be there, his old friend from the *Rose-Marine* and the two *Pourquoi Pas?* Not a word would be exchanged, but the presence of this simple, steady man, like that of a faithful dog, comforted him. Gradually the joy of the open sea soothed his grief. He tried to think only of the expedition and of his responsibility as its leader. . . . Departure was easy for a man who knew that his absence would be a matter of indifference to the one he loved; for him, the sea was no more cruel than love.

They put in at Madeira, and the Duke of the Abruzzi came on board. 'Jogging along,' to use Charcot's own expression, they reached Pernambuco in three months. They had to take a pilot on board in the narrows. As he looked through the ship's papers, he came across the captain's name, and when Charcot was going to pay the pilot-tax (which is a heavy one) refused to take money from the son of the famous doctor who had treated their former Emperor.

For some time Charcot had known that he could no longer

count on keeping Gerlache, Bonnier and Perez. They had told him of their wish to return. Deprecating as ever, Charcot began to wonder whether, deprived of the experience and help of his predecessor, he would be able to lead the expedition competently, and whether he ought to take the responsibility for all the lives in his care. He summoned Matha, Rey and Pléneau, and put the problem frankly before them. They declared that they were ready to follow him. "If we can't get back this way," said Pléneau, with his usual good humour, "we'll manage it on the other side of the Pole. And as we need naturalists, let's telegraph to the Muséum¹ to send us some : if they come by liner they will get there in time." Still not satisfied Charcot got the crew together and told them the situation. No one on board had braved the ice before ; it meant adventure and danger. If they wished they could withdraw from their contracts. . . .

"We came to see something new, Captain, and we'll follow you to the end."

Charcot, deeply touched, clasped each loyal sailor by the hand.

Three places in the mess room were empty when the *Français* left for Buenos Aires. Their driving shaft broke at the mouth of the Rio de la Plata ; navigation under canvas alone was difficult, so they signalled the accident to a tug which came up alongside and threw them a cable.

The most cordial of welcomes awaited the French whose reputation had preceded them. The Argentine Republic undertook to see to all necessary repairs. The explorers were given a banquet on December 20th, 1903, by the French societies in the capital, of which there were no fewer than

¹ Paris scientific institution, controlling, amongst other things, the jardin des Plantes.

twenty-four. The menu was profusely decorated with icebergs, penguins, and tow-nets, and bore the Navy's motto : 'Honneur et Patrie.'

They anxiously awaited the arrival of the two scientists asked for by telegraph, and promised by the Muséum. What would their chance companions be like ? For they would have no choice : they would have to accept what they were given. Finally, one January morning, two bashful scientists, modest and formal, disembarked. Neither bore the slightest resemblance to the accepted idea of an explorer. They were named Turquet and Gourdon. Gourdon's pleasant manners charmed everyone at once. "I always wanted to travel in hot countries . . ." he tried to say, but he was interrupted by such a general roar of laughter that it was never known how he found himself bound for the Polar regions instead !

At this point the expedition learnt that Nordenskjöld and his companions had been found, and that the Argentine ship *Uruguay*, commanded by Irizar, was bringing them back. 'Nordenskjöld's arrival,' writes Charcot, 'was wonderful, extraordinary, he was positively deified amidst a rain of flowers. . . . The Argentines, with their delightful politeness and good feeling, have always insisted on putting me in the forefront, and at every banquet they call for me until I give them a toast.' Nordenskjöld paid a visit to the *Français* and gave them his advice. He presented a gift of superb Greenland dogs to the man who had enlisted among his rescuers.

The stories told them by the Swedish explorer gave the beginners an idea of the tremendous risks they were going to run. Nordenskjöld and his mate Larsen were not novices, but the *Antarctic*, crushed by icebergs, had sunk after just giving them time to hoist the Swedish flag at the masthead. Norden-skjöld, who, with five of his companions, was on Seymour

THE 'FRANÇAIS' SETS SAIL

Island, did not suffer too much, but those who had disembarked on Louis Philippe Land, without provisions and in their summer clothing, and those who had managed to escape from the shipwreck, who formed small isolated groups, suffered tortures for nine long months.

"When we were too cold, we used to cut open a seal and drink its blood," said Larsen. "I wore the same socks night and day for nine months, washing them once . . . in urine. Poor Duse had to make trips with a frozen foot, dragging the sledge twenty miles a day."

Nordenskjöld's aim had been to map Graham Land. "If I do succeed," Charcot said to him, "between the two of us we shall have made a very thorough exploration of all that part of the Antarctic." For these blood-curdling stories had not damped his ardour. The meeting had but brought home to him the feeling of brotherhood that exists between men devoted to the same disinterested research, whatever their country.

The First Polar Summer

'A LOT of people told me that it was sheer madness to attempt this. But what does that matter? My motto has always been "why not?"' wrote Charcot. 'It is not a matter here of doing or dying, we have to succeed whatever the cost, for our failure would justify our critics, and failure could never repay the sacrifices so willingly made.'

The *Français*, laden with gifts and good wishes, resumed her journey to Tierra del Fuego. Her last port of call was Ushuaia, a little whaling and trading station. Surely no French boat ever haunted those waters! Yet Charcot's attention was attracted by a shout from one of the seamen: 'Look, Captain! That ship's got a French name all right!' and through his telescope Charcot deciphered the name of *Cambronne*.¹ An hour later they received a visit from her smart captain, a former cavalry officer who had taken to a life of adventure and carried a charming countrywoman with him. That night champagne flowed freely in the *Français* mess-room.

On January 24th, 1904, they sailed south; they were beginning their real voyage. Charcot called the crew and made a speech: "I want you all to realise that it's up to you now to play the game; I shall have no way of punishing you if you don't. I cannot put you in irons, you know that we

¹ Name of General famous for having popularised the most vulgar of all French swearwords.

have none on board, and anyway the crew is too small for that; I cannot deprive you of your ration of wine, you need it for your health; I cannot cut down your wages, for you wouldn't mind. So I appeal to your consciences, and rely on you doing your duty, partly out of affection for me, and more particularly because of the mission entrusted to us. You must never forget that the honour of your country is in your hands."

Charcot, with his highly developed sensibility, fully realised the solemnity of the occasion. "It is a new page of my life that I am turning slowly and gravely, and in the stillness of this night, under the shadow of the steep cliffs of Magellan Land, I cannot foresee what is to be."¹

Did he think with a smile of the story he wrote when he was eleven, the tale of the *Revenge* sailing for Patagonia? Mankind can be divided into two categories—those whose childhood dreams are realised in maturity, and those who, having had no overwhelming desires, are at the mercy of circumstance. For great men circumstances do not exist, they mould their own lives.

The heavily rolling Polar seas gave the explorers a rude christening. In the storm off Cape Horn almost everyone was seasick, and Pléneau, one of the sufferers, was most indignant at seeing Charcot survive, and speechless when Charcot, smoking a foul old pipe, came below to console him! On February 1st they saw their first iceberg, with the 'bluish white tint of its sheer walls, furrowed with cracks and crevices of cobalt blue . . . standing out against a background of pearly cliffs, in a framework of tremendous glaciers stretching down to the sea.'

¹ Jean Charcot has himself described his expedition in *Autour du Pole Sud*, Editions Flammarion.

Some of the icebergs were shaped like castles, with turrets, loopholes and arches, and a 'faint bluish glow' emanated from them in the sombre night. Charcot's enthusiastic descriptions are legion. Unfortunately photographs of these ice-landscapes give us nothing but dull pictures in black and white, whereas it was the vividness of the colours reflected in the ice which struck him particularly. Such was the fairy-like scenery through which they were to sail for months on end: such, too, was the unwieldy monster against whom they would have to wage an unending battle of wits and skill. They were sailing to the unknown, and at any moment might crash into a submerged block of ice, broken off from an iceberg. They had to slip through narrow passages 'little more than four or five times the width of the *Français*, their smooth walls towering up far higher than the mainmast.'

It was a dream-voyage, and danger was forgotten in the wonder and fascination of the 'dull thud of the sea in the crevasses and the caverns, the creaking of the ice under a sun that was almost too hot.' They passed by Smith Island and Low Island, seeing magnificent tabular icebergs, and made Hoseason Island, near the entry to de Gerlache Straits; keeping west they took as many bearings of the coast as the fog permitted, this information would be of great value to whalers and to future explorers. But they found it impossible to land on any of the precipitous and rocky coast.

The game of cannoning the iceblocks began. They overturned huge blocks of ice with the stem of the ship, breaking them in pieces without regard for the violent shock which set all the rigging vibrating. Charcot found that in this kind of navigation it was best to be posted as high as possible, so he climbed up on to the yards; later he arranged to have a canvas crow's nest. From up there it was easier to distinguish

the free channels and the weak places in the ice. Rorqual whales swam unconcernedly round the boat. They saw islands rise up out of the water, their coastlines jagged like saws, caught sight of the transparent cliff of a glacier. As they drew nearer to de Gerlache Straits the 'iceblink,' that strange white reflection characteristic of all stretches of snow or ice, could be seen on the land, which, its contours as yet unknown, had to be mapped.

For the aim of the expedition was not to make an attempt on the South Pole, but to add to the number of lands known in that part of the Antarctic, and try to discover whether the land made up one vast continent or consisted of islands surrounded by an immense ocean filled with pack-ice. They were to make every kind of scientific observation on the problems of the Polar regions, continuing and amplifying the scientific work of de Gerlache in the *Belgica*. Unfortunately the lack of funds had entailed the most rigorous economy, and it was not long before the engine began to give trouble : pipes burst one by one, they were unable to keep an even pressure on the boiler, and the propeller turned in jerks. This compelled them to stop at Antwerp Island to effect repairs, but they did not drop anchor ; coming alongside the pack-ice they fastened two mooring-ropes on to ice-anchors, shaped like grapnels, and hoisted the ship's boats on to the tackles. These were well laden with provisions in case the ship had to be abandoned in an emergency. The crew, singing as they worked, spent night and day in the icy water of the hold, trying to repair the engine. The dogs were allowed to gambol about in the soft snow. 'I am reminded of those far distant days when I played at Polar explorers in a sunny garden, sitting on a chair turned upside down, meant to be a sledge . . . I experience the delightful sensation of

regaining my childhood for a moment . . . so reality is perhaps like a dream sometimes, and not a nightmare.' The silence of the clear nights was only broken by the blowing of whales and the rumbling of avalanches.

A tent was put up on an ice-floe for magnetic observations, but had to be hastily transported on the appearance of a crack in the ice. The captain shared in all the work ; he made it his job to keep the moorings clear of snow, and took the night watches. Everyone was busy ; Matha set up his tide-gauge, Turquet stuffed birds for his collection, Gourdon went round with his geologist's hammer, Rey watched the thermometers. Charcot, helped by Pléneau and the seamen, kept watch over the general safety of the ship and party. 'The only real relief I find is in physical fatigue,' wrote Charcot, 'and I have no complaints on that score, I have more of it than I need.'

Charcot set off on skis with Matha to explore the end of the bay. Never having ski-ed before he experienced a good deal of difficulty : 'I do not pretend to have small feet, but even so I am not accustomed to their being about nine foot long, and I got into frightful tangles till the inevitable fall, which only complicated matters. . . . Now and again it seemed to me that I had definitely become one of the problems of the day !' Ski-ing was to become one of the crew's favourite distractions. Matha had not worn dark glasses, and suffered terribly from snow blindness the following day.

Shrove Tuesday without pancakes ! Mechanically the leaves were torn off the calender day by day. . . .

They were ready to leave Flanders Bay on February 18th but when they got up steam some of the pipes burst again. Charcot, suffering from an abscess in a tooth, admits that the incident did not improve his temper, and that he spent the rest of the day scolding young Robert Paumelle, the steward,





'trying to get a little order and cleanliness into the chaos he had allowed us to get into. Robert vainly heaved great sighs worthy of any whale !' On the 19th they were able to leave, and set up a cairn on Wiencke Island as they had arranged to do. Here they were off land already named but of which the coasts were marked on the map with uncertain dotted lines. They prudently set about looking for shelter : for the first time they were able to give themselves the pleasure of christening a little creek, which they called Port Lockroy.

From that moment there was a new interest for those on board the *Français* and, for Charcot, a new friendship. Gone was the silence ! Charcot had noticed a penguin rockery—whose presence was betrayed by its smell—and nothing could be noisier than this black-coated colony, who approached him flapping their wings and opening wide their beaks. A penguin was brought on board. 'He did not seem frightened, but he was really furious at the attempt on his personal freedom, and, standing on the table, his head thrown back, flapping his wings with a deafening noise, he made us a speech about the rights of penguins. . . . After his categorical refusal to have a drop of something to keep out the cold we gave him his liberty so that he could go and tell his companions of the strange sights he had seen.' Charcot was really sad that he could not understand the conversations held in such varying intonations. These amusing creatures were a pleasant relief in the solitude. They gave a courteous welcome to the visitor who did his best to understand their customs. Charcot would sometimes lie down in the snow, so as not to tower above them, and listen for hours to the interminable speeches they made him. He observed the orders given to the sentinels, the feeding of the little ones, the solemn operation of building nests with stones, carried

in the father's beak, and now and again lent a hand in this work. He picked out chieftains, soldiers, and nurses among them in their little colony. Charcot, faithful to his love of animals, gave orders that the penguins were not to be killed unnecessarily, nor the seals, whose round eyes looked at him so trustingly.

Passing from icy walls to rocky cliffs the *Français* reached Lemaire Channel. The skipper's eye could already distinguish between the land-ice, blue, gleaming, hard and uneven, and the sea-ice. The great blocks, grinding against the hull, sounded like a rushing torrent. It was nerve-racking navigation! 'We have hardly room to turn round. Astern! A thud, a grinding noise, the stern rises slightly, then falls again, the block has gone by. Ahead! Hard to starboard! An agonising moment in which one's whole body contracts, as though trying to make the movement one wants to see in the ship. A moment's hesitation might finish us, but we must take risks; hands are clenching the rail, but the voice of the helmsman, clear and calm, replies, "To starboard!" Slowly the large, sheer cliff which looms so threateningly above us passes by the bowsprit, which clears it by barely a yard. There is no ice blocking the stern. All clear. Starboard the helm! "Starboard the helm," replies the helmsman, and moving swiftly now with the current, we glide along past this huge black wall, which, fortunately for us, goes straight down to a tremendous depth.'

The captain was anxious now to find winter quarters. They returned to the great bay north of Wandel Island¹ where they found a good little anchorage which would be suitable and then ventured among the labyrinth of islands,

¹ Christened Booth Island by Dallman in 1874, and re-christened Wandel by the *Belgica* expedition.

inspecting the 'rather alarming coast,' hoping to find a wintering station farther south. The weather was so lovely that they were able to linger on deck in the evening 'while the water laps gently under the ridges of ice hanging from the rocks, night birds among the penguins chatter and their sentinels utter their warning cry, the cormorants solemnly croak, and a few inquisitive seals come sniffing around the ship.' The pack-ice was so tightly jammed that hardly any water could be seen between the blocks, except in the wake of the ship. They were forced to sacrifice penguins in order to burn them under the ice-filled clothes boiler. In this way they would obtain fresh water. Evil-smelling seal blubber was mixed with this unusual fuel.

On February 26th they lay off the Biscoe Islands. But the ice was so thick and their engine in such bad condition that the only sensible thing to do was to return to Wandel Island. The swell was tremendous. 'Against the black ground of the night sky stands out the white plain which, in the darkness, seems compact and full of movement, with high, long waves, a kind of solid liquid. Then a huge white bank rears up ahead, higher than our topmast, barring our way and advancing threateningly. But the ship climbs up, up on to this bank which slides away from under her, and the horizon widens. Then the stern lifts and we glide downwards, still in the tumult and noise, which seem in some way deadened by the night, now growing ever darker. We rush towards another bank which mounts up before us, snatches up our bows, again passes beneath us and leaves us to dip down into the hollow only to climb again. . . .'

For the first time they met with really bad weather. With all their experience of the sea, they could never have imagined anything like that notorious north-easterly gale. 'Millions

of tiny, hard snow-crystals penetrate our skin and eyes like fine needles, causing horrible pain. . . . We are lying to, and the little ship is magnificent.'

'The men and the officer of the watch, muffled in oilskins and anoraks ¹ are huddled at their posts, numb with cold, stiff and exhausted with strain, their faces drawn, their beards full of white crystals. "If there are any icebergs about," one said, "they'd better look out!" But one thing is certain, and that is that if we did meet an iceberg it would easily get the better of us; the consolation is that it would be a quick end. But we are ready to tackle any danger. In spite of the suffering and the anxiety filling even the least nervous of us, these long hours are good to live through.

'At the wheel one of the strongest and most courageous of the seamen was suffering so much that he was crying with pain, frantically beating his poor benumbed hands and stamping his feet which burnt with the cold. In the pink light of the binnacle lamp, shining on the snow, I made out the big tears running down his pain-racked face. But when I went up to him he whipped his mittens across his eyes and tried to laugh. "Good weather for cabbages, Captain!" he said. I went and stood by his side, taking the wheel from time to time so that he could revel in the joy of putting his hands in his pockets. We joked a bit and then had a serious talk, there in the night and the storm, the snow and the fog; he told me of his love-affairs, his ambitions and his longings; first he would stumble and then I; we clung to each other clumsily while the wind howled and the boat groaned. At the end of an hour, when a black figure, swaying from side to side, slithering and sliding on the icy deck, came forward to take his watch at the wheel: "Good night, Captain," he said as he went off.

¹ Hooded Eskimo capes.

"Just to think that we others think it's hard, and we know we're going to turn in and sleep in comfort, whilst you do the same job as we do, and your brain has to work full speed as well, above deck or below!"

Rey was ill. Charcot and Matha had to divide the watches between them. Charcot went four days without undressing, without even being able to take off his boots. On March 3rd the curtain of fog suddenly lifted before Cape Renard and Mount Français. Twenty icebergs mounted guard as though to bar the approach to Wandel Island.

"Get the old bus going as quickly as you can, Goudier!"

The capricious engine responded. Artemis, the moon, guardian of harbours, appeared like a benevolent deity, and the *Français* was soon moored to the leeward of Wandel Island, protected by an improvised rampart of masts, top-masts and spare booms. There it was, in Port Charcot, that she was to winter, on lat. $65^{\circ} 5' S.$ and long. $64^{\circ} W.$ of Paris, at the farthest limit of the *Belgica* discoveries, in a region where no systematic observations had ever been taken over any period of time, one degree farther south than Norden-skjold's winter quarters on the east coast of the same island.

Wintering in the 'Français'

PORT CHARCOT, on one bank of the Lemaire Channel, was a good station for observation posts and for scientific research. Wandel Island, with its two massive rock headlands, was almost entirely covered with a thick layer of glacier-snow and ice. Charcot arranged for a hawser to be stretched across the entry to their anchorage, this held back the blocks pressing on the ship. The prevailing north-easterly gales piled small pieces of ice against the *Français* and these acted as a barrier against the larger and more dangerous blocks that followed, but even so the powerful swell sometimes broke their moorings. And as they worked in the storm Charcot cheerfully hummed the air from Gluck's 'Orpheus.'

Who is the hero,
Who into this darkness
Ventures so bravely . . .

The *Français* securely moored, work ashore was begun. The portable hut, made of wooden planks covered in asbestos, which was to house provisions and certain instruments, was put up at once, thus they would be able to winter on land if the ship were crushed by the ice. The five Greenland dogs, after having been a thorough nuisance on board, came into their own on land; they were harnessed to the sledges and transported material and provisions. But to Charcot's dismay they attacked the penguins, killing and wounding them; fortunately the penguins were quick to realise that the men

were their friends, and they used to take refuge between the men's legs when the dogs were about.

As March drew to a close Charcot thought of springtime in France, and of the 'chestnut trees that must be flowering now in the Champs-Élysées.' In their part of the world the squalls grew more frequent and more violent—the meteorological shelter set up on the bridge had been blown over in a gale. Advantage was taken of any fine weather to make excursions in the whaler. The seals gazed at these strange beings, 'blinking their eyes, wrinkling their flattened nostrils, with their comical stiff moustaches, and daintily sniffed the air.' In these desolate surroundings penguins and seals become man's friends, and Charcot was always distressed when the necessities of the expedition forced them to kill, for food, fuel, or specimens. Like his father he had a horror of hunting and of hunters.

By April 8th all the provisions were safely stowed ashore, and the melinite had been transported to Salpêtrière Bay, on the other side of the island. A track, christened Avenue Victor Hugo, had been cut from the ship to the south of the island, so that the sledges were able to reach the magnetic cabins, the hut, and the two snow-houses that had been built. Holes had been dug along the shore so that water would be available for their hoses in case of fire. The crew's quarters were enlarged and made more comfortable.

Everyone settled down for the long winter very cheerfully. Charcot set up his instruments for bacteriological research, Matha and Rallier du Baty took topographical measurements, Turquet filled his bottles and labelled his collection, Gourdon classified his stones and rock. Pléneau was put in charge of the commissariat. He arranged weekly menus, made out a list of what was needed and the men

brought back the stores on sledges. "The refrigerator," he remarked, "is very inexpensive to run!" From a sense of duty and from his inborn kindness Charcot took particular trouble over the welfare of the crew, supervising their food and their amusements. He insisted on the necessity of good and palatable food for the sake of their morale as well as for their health. Daily wine and rum rations were given, and they had as much tea and condensed milk as they wanted; tobacco was distributed by Jabet, the bo'sun, once a week. Rozo, the cook, had joined the ship at the last moment at Buenos Aires. No one knew his real name or age; he had been everywhere, read everything, seen everything. They would none of them have been surprised, says Charcot, if he had announced one day that he knew of a very good way to the Pole. He went about with his bare feet thrust into dilapidated slippers, even on the coldest of days, and made special friends with Toby the pig, who, being of a very sociable nature, often poked his snout through the serving-hatch. With it all he was a very good cook, taking advantage of his unusual material to turn out some splendid dishes. Seal and penguin meat were very popular. Rozo baked bread three times a week, and produced fancy rolls on Sundays. Later, when there were penguins' and gulls' eggs to be had he was able to show his skill in cakes and puddings.

Owing to the economy that had had to be exercised many of the scientific instruments were found to be inadequate, each man had to do his best to add to them or perfect them, and the crew were willing helpers. Libois, the carpenter-stoker, had a workshop in the bows, and there he made keys, scalpels, and pincers—he was blacksmith, locksmith, armourer and clockmaker. He had a class which struggled to turn tin into floats, buckets, stove-pipes and tubs—even making



Among his friends the dogs



flower-pots for the gooseberry bush and asparagus on which Gourdon lavished so much care.

Charcot organised classes for the men to while away the long winter evenings. Chess was one of the favourite amusements, another was reading the daily paper of the previous year. The fact that their news was out of date did not prevent serious discussions, and Pléneau and Rey, the racing enthusiasts of the ward-room, studied form and picked the winners of races already run and won. There was a well-stocked library on board. Saturday was washing-day, and the white desert expanse, to the amazement of the penguins, became gay with multi-coloured sweaters and socks hanging out to dry. But soon, as the cold grew more intense, 'this produced splendid iced boards, probably excellent as building material, but quite useless from a clothing point of view !' Sunday was marked by a gramophone recital given by Pléneau, and by specialities on the menu. Every anniversary and fête day was celebrated with enthusiasm, especially July 14th and the anniversary of the Argentine Republic, for they were all grateful for the help given to the expedition by the Argentine. When the weather permitted there were ski and sledge races, with Pléneau acting as umpire, followed by a distribution of medals cut from tin cans ; and potato relay races inspired the Bretons to great sporting feats.

But it was obviously difficult living under such abnormal conditions, especially when the almost unending night kept these young and vigorous men on board without a break. They became irritable and moody in spite of themselves. The psychological problem was quite as acute as the physical.

In June Charcot noticed that the men were beginning to feel the strain of their monotonous existence, so he organised a picnic to the neighbouring island of Hovgaard. They all

set off at dawn, that is at 10.30 a.m., laughing and singing. The ice was barely strong enough to carry them, but the holiday spirit made light of a few unpleasant duckings. The water might seem warm in comparison with the air, but a few minutes later the wet boot would be filled with ice, and the boot itself seem to be made of icy crackling parchment. They ate their meal at Hovgaard. 'We had to break up the meat and butter with ice-axes, which amused all the men, and in an hour and a half I was able to produce a fine Polar meal, with a glass of rum each to wash it down. Everyone said it was very good, though we had to eat very quickly, dancing about all the time to keep our feet warm. . . . On the way back we had ski and sledge races, and back on board the men asked me to round off the day for them by reading them some poetry.' The crew had a marked liking for the verse of Victor Hugo.

Charcot throughout his book pays tribute to Pléneau, who was as ready to help the scientists with delicate adjustments as to lend a hand in the less agreeable tasks, who kept up the general good spirits of the party with his unfailing good humour, and was prepared to laugh with the others when buckets of icy water spilt down his neck or he slipped on the ice. He was the ideal companion for any kind of adventure.

Charcot's generous, ardent soul had its contemplative moods. He loved to withdraw from the noisy conversations on board, and sometimes, on quiet, moonlit nights he would go ashore for a lonely stroll. He was no longer assailed by the tormenting thoughts which had filled his mind at the time of departure, as he kept a solitary watch on the bridge. Peace had come to him : through action he had regained inward calm and this was evident in his feeling for religion,

the depth of which is everyman's secret and the measure of his worth. In Charcot it took the form of a release of pent-up emotions, an outpouring of the heart which words were powerless to express.

'The icebergs and the sea, and the lofty mountains and the rocks and the moon and the shadows themselves are powerful divinities, great, tranquil, majestic in the emptiness. The dull rumbling of the ice, the roaring of a distant avalanche are their breathing or their voice. I bared my head and prayed. My incoherent prayer, my unbounded thoughts, went to my country and to my loved ones in that civilised world. . . . Full of affection, love and hope, without hate or jealousy, it mounted still higher, farther and yet nearer, towards those I had loved, who had made me a man, who are no more, and whose approval I still seek. The will to succeed in the work I think so fine, to do my duty and do it well, was strengthened in me by my prayer to God, or to the Gods, to Allah, to Wacondah, to Nature, or who you will ! And as it poured forth from my soul, I felt my limbs grow more vigorous, my chest broaden, my brain grow clear, steeped in the power breathed forth by the mighty forces around me.'

The cold grew more intense. The mess-room stove gave considerable trouble, and remained unresponsive to insults and Paumelle's kicks. Charcot quoted Montaigne :

Point ne se faut courroucer aux affaires,
Il ne leur chault de routes nos choleres.
(It does no good getting angry with things ;
they care nothing for all our rage.)

But "It's obvious he never sailed in the Antarctic," replied young Robert, with rage and pride. Poor Robert ! until the day that the marble slabs were fixed on the observation-posts, he had been persuaded that they had been brought to

adorn the tombs of those who might die so far from civilisation ! Charcot's cabin was the farthest from the stove, and the water used to freeze in his washbasin, but his enthusiasm and enjoyment were in no way lessened. Seven seals had decided to sleep up against the ship, and Charcot could hear them snoring from his cabin.

The men had only the cormorants to keep them company. Charcot found them 'very lovable' and quite tame. The penguins had forsaken their rockery, which, 'still showing traces of its inhabitants, is as triste as a fashionable seaside resort out of season,' and the men missed their charming companions, who had fearlessly watched them as they worked, now and again sending a small deputation, doubtless to set them right on some law of the country. It was a mystery where they could have gone, as they had a great fear of the sea, the lair of their enemy the grampus. The petrels, indistinguishable from the snow, had also taken flight. Now only the sheathbills were left, hopping about on one leg, the other tucked under the wing to keep it warm.

The rigging of the ship became a network of beautiful frosted lace.

They all found that the intense cold was bearable if there was no wind, but regular meticulous observations when there were sometimes as many as 70° F. of frost, were very painful to make, especially as in most cases they involved taking off one's gloves : the smallest task became an overwhelming labour. The men had to call up all their reserve of strength to continue with their work. Charcot was often in danger of having a frozen nose, and he never appreciated Pléneau's vigorous efforts in rubbing the affected part with snow !

In July Matha fell ill with a bad attack of myocarditis, an illness which was often fatal. Charcot was alarmed and

dreaded the thought of a possible tragedy, blaming himself for having taken Matha ; excessively conscientious, Charcot would always hold himself responsible for anything which happened to his companions.

A provision dump was to be landed on Hovgaard, and an expedition crew was made up. Everyone was very keen to go, but the choice was limited to Charcot, Pléneau, Gourdon, Rallier du Baty and Besnard. Rallier du Baty was the nephew of an admiral and a well-educated man, he had signed on the *Français* as an ordinary seaman from a longing for adventure and experience. Charcot speaks of him as a useful link between staff and crew ; the crew accepted him because he knew his job and did it as well if not better than anyone else, and he was useful in many ways to the staff. Later he was to lead a successful expedition of his own to the Antarctic.

When Matha had taken a turn for the better the expedition crew set out for Hovgaard on the ice, taking the whaler, and camping out. 'One suffers most of all from the cold,' writes Charcot, 'trying to do simple things which can be managed in no time under ordinary conditions. Hampered as we are by our gloves, if we take them off for a few seconds we burn our hands, benumbed by the metal, and the frozen canvas tears our nails. It took two of us to unfold the tent ; it might have been made of steel. It was torture untying a knot with ungloved hands, hands that one could not feel at all, or felt far too much, dancing about the whole time to keep one's feet warm, and every now and then breaking off the stalactites painfully attached to one's moustache and continually dripping nose ! But we laughed at our misery, assuring each other that things could be, and probably would be, considerably worse. This is our stock phrase against all present evils !'

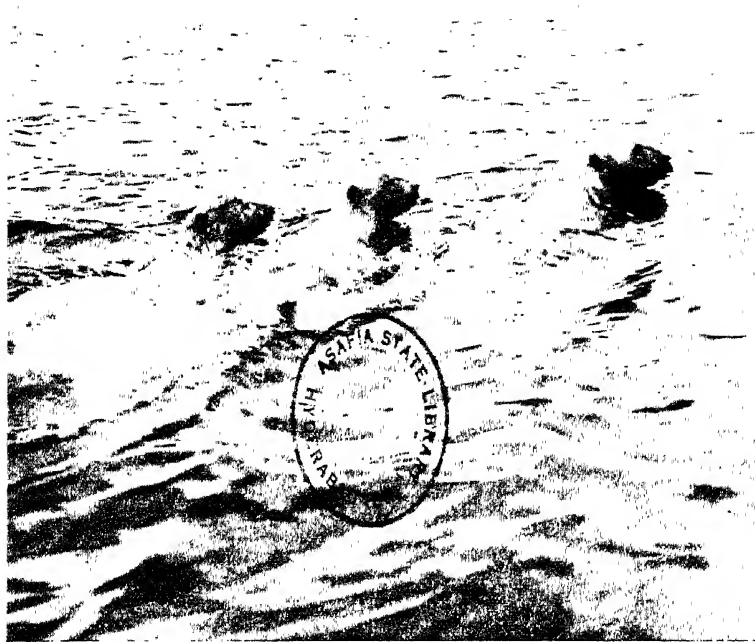
Charcot slept by the flap of the tent so that he could get up in the night and make regular scientific observations without disturbing the others. He found the soup ladle most useful for taking out the snow and ice that accompanied him into his sleeping-bag on each occasion. 'Happier and more at peace than I have felt for a long time, I went to sleep again soothed by the dull rolling of the far-away ice, and by the less poetic snoring of my companions. In the morning they were all convinced that I was the loudest snorer of them all !'

A barrier of slush prevented them from landing on Hovgaard, but another attempt was made in September, and they were able to set up camp in a grotto there, and instal themselves comfortably, feeling 'like schoolboys on holiday.' Their new home was christened 'Hauteville House' after Victor Hugo's house in Guernsey. But they had a disappointment: where they thought they had seen a new archipelago there were only mountains joined by glaciers.

That night they heard the song of the sirens . . . 'A strange song rises on the sea shore, a kind of gurgling, like liquid being poured out of the neck of a narrow bottle, then a slow, melodious whistling, and finally a very soft, long-drawn-out wail, which gradually dies away. It is the song of the seals.'

Forcing their way through the ice the expedition crew returned to the *Français* after four days' absence. They found Matha completely out of danger, on their return, though still dragging himself, rather than walking, about.

The weather became damp and milder in November, and the snow-houses were in a lamentable state. The unpleasant weather made everyone feel moody and irritable, and Charcot gave the men a new interest by setting them the task of collecting penguins' and cormorants' eggs; the new exercise and different food soon restored good humour.



A white family

(Brian Roberts)



The penguins had all come back, and Charcot enjoyed watching them once more, and gives many amusing details of their nesting. A series of photographs were taken of the nests of the gulls and other birds, and a specimen egg was selected from each different nest.

The penguins made their nests with stones, poor or luxurious according to the perseverance or cunning of each individual, though if one were caught avoiding the tiresome labour of transporting stones by stealing from a neighbour, he was severely punished by the others. 'I amused myself,' writes Charcot, 'by watching a couple, who, profiting on the disorder aroused by our arrival, quickly made a nest from stolen, near-by stones. Vice, once again, was rewarded in this wicked world. I finished off their work for them in a few seconds, and taking a splendid egg from the basketful we had collected I put it inside the ring of stones. The two penguins looked at the egg in astonishment, shaking and turning it over ; one of them finally decided to acknowledge ownership, and settled on it with a satisfied croak, the other made proud little crowing noises. Later, no doubt, the neighbours will all say, "How much he takes after you both !" '

Charcot could not help wondering what the penguins made of these large beings something like themselves who appeared and went through strange rites and then disappeared, leaving a few strange relics as proof of their actual existence. 'A legend might be handed down from one generation to another, and—who knows—several religions might exist and the peaceful penguin world be at war for the triumph of Gerlachism, Scottism, Nordenskjöldism, or Charcotism.' Charcot later told Anatole France all he had found out of the manners and customs of the penguin republic, and so inspired the author to write the *Île des Pingouins*.

Had it not been for the rapid lengthening of the days the explorers would hardly have noticed the return of spring. Yet one morning a man, kneeling by a dark patch staining the snow, excitedly called out to the others : there was moss, vivid green moss over about two square yards of the earth. They stood there gazing at this miniature lawn in the midst of the icy desert. Expeditions ashore were resumed, and the whaler explored the big bay formed by the glacier of Danco Land. When Charcot examined the state of the ice from the summit of Jeanne Hill he considered that it would be passable beyond Hovgaard. The expedition crew left in the whaler on November 24th with provisions for twenty days, and a collapsible sledge made of skis which had been contrived by Charcot. When fully laden the boat weighed more than three quarters of a ton. They set sail for Petermann (Lund) Island, where they camped the first night. In this strange navigation through the ice the men in the stern pushed and sculled whilst those in the bows broke up the ice with their axes or by the force of their own weight. Sometimes the frolicking of a seal would clear a way for them. Charcot, the cook of the crew, never cleaned out his saucepan, 'the residue only enriched the following meal,' he says, but adds that this residue usually consisted of scraps of meat, salt, sugar, coffee, fur and a little tobacco and petrol !

The next day it was impossible to continue breaking up the ice, and the heavy whaler had to be pulled and pushed ; the bows would sink in, and then the men had to lift and push, advancing a few yards at a time. This excruciatingly hard work continued for eighteen hours. In spite of their dark glasses each one suffered badly from ophthalmia, which felt like 'a handful of pepper in the eyes,' and the next day they took it in turns to act as guide whilst the others kept soothing

ice-compresses on their eyes. On November 29th they camped at the foot of Cape Tuxen, on Graham Land, a magnificent steep promontory of diorite, over 2,900 feet high. They made the difficult climb to the summit and took bearings on all the new land stretching out before them. After going a little farther south and sighting the Biscoe Islands they turned back, reaching the *Français* on December 5th, after working eighteen hours a day for ten days, on an exhausting, slow and extremely painful journey.

Summer Expedition and Return to Civilisation

‘ANY change, however highly desired, holds a touch of sadness ; we leave a part of ourselves behind : one has to say good-bye to one life before starting on another,’ writes Charcot, quoting Anatole France. It was time for them to leave Port Charcot and take advantage of the few weeks of summer to penetrate farther south.

Under the direction of Matha the fitting out of the *Français* had been completed whilst the expedition crew was away. A channel had to be made to enable the ship to leave her anchorage, and melinite, picks, shovels and ice-saws were used for this arduous work. On December 17th they were lucky enough to have a south wind which carried away a large expanse of pack-ice. The engine was got going again ; it was still hopelessly unreliable. The huts, a stock of provisions and a whaler were left on shore, making another wintering there possible, and, following the custom of all explorers, a cairn was built. It was supported by steel shrouds ; inside was a bottle containing a document on the work of the expedition, and outside a sheet of cast-iron inscribed with the names of the members of the expedition. On a rock they carved a huge letter F like a high-water mark.

The excitement of the approaching departure was marred by the death of Toby the pig, mascot of the *Français*. Toby had been given them by the men of the *Uruguay*, he had gone on the search for Nordenskjöld, and taken part in the cele-

brations on the explorer's safe return. On one occasion during the winter he had swallowed at least half a dozen fishhooks in his greed, as he stole some fish from a basket, and wakened by piercing, terror-struck cries, Charcot had had to perform a surgical operation at once to save the patient. Now, though the crew devotedly fed him spoonfuls of condensed milk hour by hour through his illness, they could not save him.

Christmas Eve marked the anniversary of their departure from Buenos Aires. Charcot asked the men in his class, the day before, what they would do if they suddenly found themselves in Buenos Aires next day. After a good deal of hesitation one of the men stepped forward: "Well, Captain, we've all talked it over together a good many times, and what we would really like to do—and I don't see why we shouldn't admit it—would be to have a good old blind!"—"And here I've been giving them lectures on the dangers of alcohol for more than a year!" said Charcot as he retreated to the mess-room.

A gramophone recital for the penguins was the chief amusement this Christmas Eve. The gramophone was installed in the snow, and a popular record played. The penguins, greatly intrigued, stood listening with their heads on one side; the most courageous tried to get into the horn. A surprise hamper prepared by the captain's sister was unpacked and revealed a cardboard Christmas tree all decorated with tinsel and toys. The crew's quarters were gay with flags and lanterns, and at midnight the candles were lit and the plum puddings set ablaze. The fun lasted until four o'clock in the morning, round the only tree the Antarctic had ever seen.

The time had come to bid farewell to the desolate island

where the *Français* had spent nine months. They saluted the tricolour flag flying bravely over the hut, and on December 25th the ship set out towards new adventures. It was hoped that a survey could be made of Schollacrt Channel, after putting in at Port Lockroy, and that after sailing along the north-west coast of the Palmer Archipelago, skirting the great mass of pack-ice, the south of Graham Land and Alexander I Land might be seen.

On leaving Port Lockroy they passed through Roosen Channel and made Antwerp Island, with the towering Mount Français, 9,300 feet high. To celebrate New Year's Day Charcot distributed eau-de-Cologne that he had made, and all the little presents prepared for them by their friends in France. He had set aside records for that day on which were registered the voices of his loved ones. But this very direct reminder moved him so deeply that he could not bear to continue after the first few words. Those simple words from across the sea were enough to break the peace and calm of the Antarctic.

A storm was getting up. The squalls were so violent that pieces of ice and snow from a near-by iceberg were hurled against the masting and broke part of it. The explorers were in deadly danger. The threatening shape of a rock or iceberg would suddenly loom up in the black night, yet they had to sail on. The full horror of their situation was revealed by daylight. 'Cutting across the grey of the mist, far above us, I saw a great white line ahead, which at first I took to be an unexpected break in the fog, but the dull and only too familiar rumbling of the sea, and a bluish mass tinging the mist, quickly showed me my mistake. An iceberg! What I could see ahead of us was its snow-covered top. It was a tremendous monster! "Hard aport!" I shouted, at the

top of my voice, and at once we swerved over to starboard, but at that same moment a similar mass reared up on that side and loomed above us while the roar of the sea rushing into the invisible caverns echoed like the heedless mockery of a giant. "Starboard the helm !" I shouted, throwing up my arms, and by a miracle we passed between the two floating mountains along a channel barely twice the width of the ship.' And to describe his feelings Charcot quotes from *Quatre vingt treize*, Hugo's novel on the French Revolution :

"Knight, do you believe in God ?"

"Yes—no—sometimes."

"In the storm ?"

"Yes, and in moments like this !"

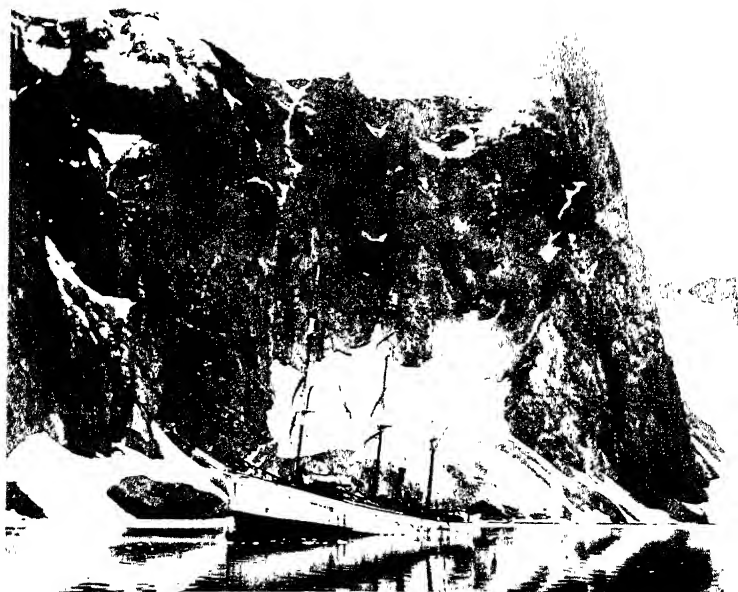
They sailed on in a south-westerly direction, still in the raging storm. On January 11th the storm suddenly ceased : 'At seven o'clock in the evening the wind dropped and the fog cleared, and under a blue sky, rapidly becoming cloudless, the pack-ice ahead of us was a wonderful sight. Never has calm after the storm been more absolute, more imposing, more grand, yet smiling. . . . But we could penetrate no farther, the pack-ice stretched out, dense and reinforced by a barrier of icebergs. From my crow's nest I could see no hope of any advance and, as though to heighten our regret, we suddenly saw land¹ ahead. First a high summit in the form of a pyramid, then three other summits, less high, which, golden in the sun, soared above the clouds. We sounded and found 448 metres. The land disappeared behind the far-away fog, but the wind had veered to the S.E. and the midnight sun shone in a clear sky.'

All the next day they sailed along the edge of the pack-ice, trying to force their way through. Charcot would no

¹ Alexander I Land.

longer leave his post in the rigging, and his hands became so numb that one of the seamen had to climb up and unclench them for him. The icebergs they saw were enormous, the largest they had ever encountered, many of them with grottos and arches. On the 13th they realised that there was no hope of getting through, so they set off in a north-easterly direction. They saw their summit once more, about sixty miles away. More to the east and nearer was another high snow-covered summit, named by them the Pic Gaudry, and to the north-east could be seen a chain of mountains stretching away as far as the eye could see. On the 14th another triangular summit, christened Pic Velain, was seen. On the next day Charcot wrote: 'This triangular summit is on a land which seems to stretch in a south-westerly direction for a long way, and to join up with the high summit we saw on the 13th, which was on the N.E. of Alexander I Land. It is made up of an imposing chain of mountains with five outstanding peaks, the two highest are about 4,000 and 6,000 feet high, they rise from a big, terraced glacier, which ends in a cliff of ice above the sea.'

They found a channel amidst dangerous ice which took them nearer the coast. 'I was thankful to have crossed the ice at last, and to have seen new land which may help us to further discoveries, and the fatigue and worry of the previous days receded to the far-distant past.' Then suddenly, 'as we were passing about a cable's length from an iceberg 150 feet high, we felt a terrible shock, the masts vibrated and swayed till we thought they would fall, and the bows reared up almost vertically. . . .' They had struck a submerged rock. 'The men, who were asleep below, rushed up on deck; there was an instant of stupefaction, of intense feeling, but no panic,





and I saw all eyes turned on me. Was I frightened? I really cannot tell, perhaps I was after all, for I asked myself that question, and very calm, quite self-possessed anyway, I put my cap straight and buttoned up my coat for the look of things.' Water was pouring in at the bows. It would be desperate if the *Français* were to sink there, so far from Wandel Island. The engine was useless, all the pumping had to be done by hand; Libois tried to caulk the hole; Matha took photographs and mapped the coast of their new land, christened Loubet,¹ as though nothing had happened. Charcot had to accept the inevitable. All hope of continuing researches and exploration and wintering for a second time was now gone, for no one could tell the extent of the damage done the ship. The storm raged once again, and the ship's boat was smashed to pieces by the heavy seas. Charcot decided to tack back into the north-easterly wind, force the ship into the thick blocks of ice at the edge of the pack, and let her drift. By January 28th Matha was completely exhausted and ill again; Charcot calculated that he himself had not taken off his clothes for twenty-eight days. The engine was pulling very badly, and the men had to work at the pumps for forty-five minutes of every hour to keep the *Français* afloat. Even under these appalling conditions survey work was continued, and eventually, all completely worn out, but still cheerful, they made Port Lockroy on January 30th. 'I had chocolate made for all the crew this morning. What joy it was to undress, to rest and sleep, to have time to wash !'

'What is the strange attraction of these Polar regions,'

¹ The *Pourquoi Pas?* expedition found that this long stretch of coast belonged to Adelaide Island, which had been said to be only 8 miles in length and lying farther north.

writes Charcot, 'so strong and enduring that once having left moral and physical fatigue are forgotten, and one's only idea is to go back? Where lies the charm of countries in reality so desolate and fearful? Is it pleasure in the unknown, a fierce joy in the struggle to attain and exist in them, or the pride of attempting and doing what others do not, the delight of being far away from pettiness and meanness? It is something of all these things, but more as well. I have felt for a long time now that in the midst of this desolation and death I had a more vivid sense of delight in my own life. But now I feel that these regions make a kind of religious impression on one. . . . Here is the Holy of Holies, where Nature reveals herself in all her dreadful power, like an Egyptian divinity sheltered in the shade and silence of his temple, withdrawn from everything, far from the life which she creates and rules. The man who forces his way into these regions feels his soul uplifted.'

Ten days' rest at Port Lockroy restored the health of the men, and a few repairs were made on the *Français*. After christening a cape and a peninsula they were on their way again, still pumping by hand day and night. But they more than ever regretted having to go north now that the fine weather seemed to have become settled. They completed their map of the Palmer Archipelago, sailed by Hoseason and Low Islands, and on February 15th, 1905, as they doubled Smith Island they saw their last iceberg.

But the struggle was not at an end, and it was not until March 5th that, with a following wind, all sails set, the *Français* like a fairy-tale ship made her entry into Puerto Madryn, at the inner end of Gulf of Nuevo. Standing on deck everyone gazed in bewilderment at the houses, the railway, the men . . . all the paraphernalia of civilization. This little Patagonian

port, visited once a year by Argentine ships coming for sheep's wool, seemed like a bustling town.

And then a flood of memories and anxieties swept over them all. 'Then it was that we began to worry as to what we might hear on our return. That was the worst moment to live through. There was no telegraph service there, no news from Europe.'

Charcot sent off Pléneau with a telegram to Chubut, and told him to wait there for the answer. And Pléneau, ever faithful, ever tireless, covered the 45 miles on horseback . . . he had to wait three days, and then again ride across the steppe. Charcot, distraught with anxiety now that he was no longer absorbed in directing the ship, paced ceaselessly up and down the bridge. As soon as he caught sight of Pléneau he shouted for news. But Pléneau could not allow him to read his telegram in front of all the others; he led Charcot gently to the mess-room. . . . Charcot threw himself into his friend's arms and wept like a child. His absence of eighteen months, which he had counted on for the smoothing over of what was perhaps only a fleeting discord, had ended in his learning in those few cruel lines that his wife had decided to leave him, and that their separation was inevitable. Then, in the depths of his despair he turned again to the faith of his childhood, and far from the eyes of his companions, kneeling in a humble church at the very end of the earth, he felt once more the calming influence of prayer. From the holy sacrament of Communion he drew the strength he needed to bear his bitter disillusionment.

He had learnt, too, that his brother-in-law, Waldeck-Rousseau, was dead, and that his sister Jeanne had got a divorce during his absence, and was impatiently awaiting his return. They were alone now to help each other through

the trials of life. Poor Jeanne had suffered cruelly from lacks of news. She had never received the brief letter which Jean had left for her on January 27th, 1903, in a cairn in Orange Bay. 'Will it ever reach you?' he had written. 'I must rely on a seal-fisher, or perhaps on the Governor of Ushuaia, who knows that we are touching here.' She herself had written every day, as Charcot had begged her to do, and had sent copies of the letters to five different ports, but the expedition had called at none of them, and her labour of love had been in vain. On leaving France her brother had told her that if the expedition had not returned to civilisation by April 1st, 1905, at the latest, the sending of a rescue-party should be considered, as their provisions would not allow them to stay in the Antarctic after the end of 1905. At the beginning of the year, therefore, Jeanne had begun to get an expedition together. She had got into touch with Scott, who, on his return from the Antarctic had just given an exhibition of sketches and souvenirs in London, and she was contemplating arranging for this exhibition to be shown in Paris in order to attract public attention to Polar expeditions. Bernacchi, one of Scott's companions, was to give a lecture at the Trocadero, in Paris, on Scott and Charcot.

At this juncture the *Prensa*, a big Argentine newspaper, sent on a telegram which gave her her first news of her brother.

'Charcot Puerto Madryn. Wintered Wandel Island. Able carry out good conditions all scientific work. Question Belgica Strait settled. Alexander Land sighted but unapproachable owing ice. Several unknown points Graham Land surveyed. Hitherto unknown coast explored despite grounding causing serious damage. Survey all exterior contours Palmer archipelago afterwards continued. All well glad find Argentine still lovely prosperous.'

Actually they were short of water and coal, though there were provisions enough for six more months. The *Français* was generally considered to be lost, and the Argentine Republic had generously sent the *Uruguay* in search of them, as it had done for Nordenskjöld.

Gradually habit resumed its sway over the lives of the men, who felt as if they had arrived from another planet. 'What has been happening while we have been away?'

'Oh, of course, you do not know. There is a war between Russia and Japan.' And the Argentine official told them of Port Arthur, of battles with 30,000 and 40,000 dead. It all seemed very strange to these men who had been through the terrible experience of being completely isolated, but who had known the true comradeship of a Polar crew.

Buenos Aires awaited them. The *Français* arrived there on March 15th, and was given a magnificent reception, 'both official and unofficial'; all the ships were beflagged in her honour, and among them was the cruiser *Dupleix*, the first French ship to greet them on their return. Many friends rushed on board to welcome them.

But Charcot was not the man to forget that his ship was a wounded hero, and she was immediately put in dry dock: the Argentine had again offered to undertake all repairs. Then it was that they realised the full extent of the damage; it was surprising that they had ever been able to get back at all. The bronze sheathing on the stem had been destroyed, twenty-two feet of the false keel torn away, and several planks loosened: only a few inches of wood protected those twenty human lives from shipwreck. How, with her slight tonnage, her stubborn, broken-winded engine, had the *Français* been able to complete her voyage? Doubtless the courage of those who manned her strengthened her weakness, but there

could be no question of attempting another voyage under similar conditions.

The Argentine Government proposed purchasing the glorious ship, and Charcot accepted. Bearing the name of *Austral* she was to be used for carrying provisions to the meteorological observatories in the Antarctic. The sale would help him to meet his debts. Perhaps his grief at the news from France prevented him feeling too deeply the loss of his ship, in which he had placed such high hopes, and which, after all, had served him loyally. On May 5th Charcot and his companions, with the seventy-five packing-cases containing the collections of the expedition, left in the liner *Algerie*.

Enter the 'Pourquoi Pas?'

THE goal Jean Charcot had set out to reach was attained. From that time on he was to be famous in his own right, and not only as the son of his father.

At Tangiers he was informed that the Government was sending the cruiser *Linois* to fetch him and his companions, and it was as a hero of the Antarctic that he was welcomed, first at Toulon, and later at the Gare de Lyon in Paris. The Minister of Marine, and all 'the most famous savants of Paris,' awaited him on the platform. And his sister Jeanne was there, graceful and affectionate as ever; those twenty-two months had whitened her hair a little, and that of her brother. She was very proud of her hero, and carried him off to her flat in the Avenue de l'Alma where they were going to live together. Jean's divorce, on the grounds of deserting his wife and home, was imminent.

Jean was invited to one reception after another. Sometimes his fame was evident in curious ways. "Jean, do you know that Charcot has just won a race at Epsom?"

"What on earth do you mean?"

"Well, you see, a certain Mr. Smith has named his thoroughbred after you!"

He had to see to the publication of the work of the expedition. Jeanne attended to his correspondence. On his desk were piled rather bewildered acknowledgments from the personalities to whom Charcot, like a whimsical god, had made

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the platonic gift of his new discoveries, by naming different parts of those desolate regions after them. Islands had been conferred on Charles Rabot, Paul Doumer, Camille Pelletan, a peninsula on Pasteur. Capes were less rare. This small change went to Dr. Roux, E. Mascour, Moureaux, etc. . . .

'I already possessed an island off Cape Horn and a frozen fjord in the extreme north, and now I find myself provided with a bay in the extreme south,' writes one of them. 'They are all lands that I shall never see.' And Alfred Grandidier says : 'Here am I, virtual proprietor of a mountain in the northern hemisphere and a cape in the southern !' In another of the letters Stephane Lauzanne replied : 'On my side, I have neither bay, nor mountain, nor even a stretch of pack-ice to offer you.'

Charcot had been so upset by the mishap to the *Français* that, with his usual modesty, he thought he had half-failed. He was only gradually to realise the greatness of what he had accomplished. Until 1903 the French flag had flown in the Polar regions only for a few weeks in the summer : they had managed to winter there and to carry out extensive work. Louis Gain, Assistant Director of the National Meteorological Office, summarised the work thus :

'Sketches of six hundred miles of new coasts and lands, an accurate map of the North Coast of the Palmer Archipelago—used since by whalers—a study of tide movements, with strict daily measurements recorded on a tide-gauge over a period of six months, observations on the intensity of gravity at the wintering station, made by means of a pendulum.

'In meteorology, a series of measurements of actinometry, temperature, pressure, wind-direction and speed, humidity, clouds, rain and snow ; a study of the optical phenomena of the atmosphere and of disturbances encountered. Con-

firmation of the frequency of north and north-easterly gales, of considerable importance in the Graham Land district ; observations on terrestrial magnetism, atmospheric electricity, daily variation of the electric field in the neighbourhood of the earth ; rate of discharge of electrical energy from charged bodies in the atmosphere ; and finally numerous observations and comprehensive collections dealing with geology, zoology and botany.'

These collections were placed in the Muséum where, until then, there had been only the solitary penguin brought back by Dumont d'Urville. The publication of the works in seventeen quarto volumes was undertaken at the State's expense.

Jean Charcot gave innumerable lectures and began to make preliminary preparations for a second Antarctic Expedition. With his remarkable will-power he had been able to banish the nightmare which had brought him so much sorrow. His sister Jeanne had taken little Marion (then ten years old) under her care, and was bringing her up. Jeanne did all that was in her power to give her brother a happy home. Jean, in the prime of his manhood, was very popular with women and bombarded by letters. He would generally arrange a rendezvous . . . in the drawing-room, where he would read his lady a lecture and then show her politely to the door. He had vowed that he would mistrust all women : "Swear that you will never let me marry again," he begged his sister. He was eager for Jeanne to see the icy landscapes which he loved so much, and masterfully arranged a voyage to Iceland for her and her friend Mademoiselle d'Abnour, with Gourdon to accompany them—good-natured Gourdon who had so wanted to go to hot countries : it was evidently his fate to be sent to cold ones !

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And Fate, ever ironical, contrived to break their celibate peace for Jean and Jeanne. There in wild Iceland Jeanne met by chance a Scotsman named Arthur Hendry, at a halt at an inn. His distinguished manner charmed her at once. He was a member of the Harmsworth family, to which Lord Northcliffe and Lord Rothermere belong. The two parties joined up for their journey across the 'land of ice and fire.'

Jean, for his part, had found his way back to a house he used to visit in his father's time, that of the eminent lawyer Cléry. He had dined there one evening, but had not then appeared to notice a pretty nineteen-year old girl who sat watching him in silence.

"There is a son-in-law after my heart!" Monsieur Cléry had exclaimed after the young man had left.

"What can you see so extraordinary in him, papa?" replied the young lady. "He is not as nice as all that. He didn't even look at me!"

The pretty young girl was now a lovely, graceful young woman, with artistic talents. She played the harp and her landscapes had already won her a medal at the Salon. She was obliged to admit to herself that her feeling for the explorer sought after by the whole of Paris was nothing less than love. . . . Her prayers in the hideous Église de la Trinité became more and more defined . . . to be the wife of Jean Charcot, to build up a new home for him, to give him children who would honour him.

Her dream came true. On January 24th, 1907, the marriage of the explorer and Mlle. Meg Cléry was celebrated at this same Église de la Trinité, in the presence of all the notables of Paris. One shadow clouded the young bride's happiness: she had had to promise never to oppose her famous husband's sea-going expeditions, and separation was soon to come.

CHARCOT MARRIES AGAIN

The honeymoon was to be at one and the same time a journey of preparation for his inevitable departure. They left for England and Norway. Meg had decided that she could not be parted from her mother, who accompanied the young couple. They went from port to port, studying the different types of ships. On their return to Paris Madame Charcot adopted Marion, and became a mother to her. Soon a little Monique came to bring added happiness to the new home.

Courageous and true to his vocation, Jean prepared for his next departure. The second Antarctic expedition was organised on a far larger scale than the first. At the instigation of Paul Doumer and Maurice Bertheaux it was patronised by the Muséum and the Institut Oceanographique, as well as by the Académie des Sciences. The Government granted them a subsidy of 600,000 francs, and with other subscriptions their budget was brought up to 780,000 francs. Prince Albert of Monaco lent the expedition valuable instruments.

Once again the future leader of the mission entrusted the building of the ship to Père Gautier, of Saint Malo. She was to bear the name he preferred above all others : *Pourquoi Pas ?* The ship was put on the stocks in September 1907. She was to be a handsome 130-foot three-masted schooner. Her short masts, which resisted squalls better, had been chosen from amongst the finest in the Brest arsenal. Wood, anchors and chains were all three times more solid than those used for an ordinary vessel of the same tonnage.

Their aim, once again, was not to make an attempt on the South Pole as Sir Ernest Shackleton, following in the steps of his former chief, Captain Scott, later set out to do, but rather to 'continue the work and exploration of the *Français* in that part of the Antarctic lying south of South America, extending observations over the widest possible



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field. Beyond Graham Land was the unapproached Alexander I Land, and it was not known whether this was an island or part of a continent; to the west there was an unexplored zone stretching as far as King Edward VII Land.' This time the equipment included three laboratories; two in the stern, roofed in on deck, and one in the mess-room, communicating with the captain's quarters. Charcot himself, with the help of his friend Boyn, superintended the building. He insisted on the strengthening of the forepart of the ship, inside by means of strong girders, and outside by sheathings of iron and thick zinc plating.

During the winter he went to Lautaret to try out sledges, with his wife and Scott. Scott gave him the benefit of his experience, advising Charcot to fit his boots with crampons, for walking on ice, and so on.

On May 18th, 1908, the ship was ready. Her rounded shape and lofty funnel made her familiar to everyone in Saint Malo, before she became known to history and to legend. She took her place for the first time in the dock, in the moorings to which she was to return every year. There was a splendid launching ceremony. Madame Charcot was the godmother, and Paul Doumer the godfather. Jeanne broke the traditional bottle of champagne against the white hull. Departure had been fixed for the month of August; it only remained to complete details of the equipment. The spacious, lofty mess-room contained eighteen bunks; the petty officers had a mess-room and cabins to themselves. Eight cabins and the sick bay opened on to the mess-room, in the part of the deck forming the poop. A beautiful ornament had been placed under the poop. It was a large silver and bronze plaque, showing the ship under the Northern sun, with the device, 'Honneur et Patrie.' Father de Gue-

briant, a China missionary, had presented it to the captain, grateful for the help afforded him by the latter in 1900, at the time when bands of pirates were terrorising the north of the Chinese Empire. A gunboat had come up the Blue River and saved his mission, thanks to Charcot's appeal to Lockroy, the Minister of Marine. Turpin, the inventor of melinite, had offered the explorer the little gun with which he had made his experiments; in future it was to be part of the equipment of the *Pourquoi Pas*?

Madame Charcot watched the hour of departure draw near with an anguished heart. She had made her husband promise to allow her to go with him as far as the beginning of the Polar Circle. To be with him, she would conquer her fear of the sea. "I would have followed him to Hell rather than have left him," she once said.

Nearly all the crew from the *Français* came aboard, and several new members.¹ But, on the other hand, only one member of the staff, Gourdon, had re-enlisted, and Charcot was glad of his presence. (Pléneau had gone prospecting for his company in Mongolia.) The Navy was represented by three lieutenants, Bongrain, Rouch² and Godfroy. The scientific personnel consisted of Gourdon, Dr. Liouville, the captain's nephew, L. Gain, bachelor of science, and A. Senouque. The ship was blessed by Monseigneur Riou towards the end of July. On the 23rd Charcot wrote to Jeanne: 'We have just been out for six hours, but the weather was so bad we decided to return.' (The paper-heading was an enormous question-mark standing out against the frost-

¹ Herve, Thomas, Dufreche, Lerebourg, Aveline, Denais, Nozal, Boland, Rosselin, Mouzinet, Lhostis, Frachat, Modaine, Van Acken.

² J. Rouch published *Histoire des Voyages antarctiques* in 1921 with a preface by Charcot.

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covered ship, with the words 'French Expedition to the South Pole.'))

Departures of the Antarctic Expeditions were always to be dramatic. After leaving Le Havre amid an enthusiastic ovation, the ship coaled at Cherbourg. Then a terrific gale compelled her to take shelter at Saint Pierre in Guernsey. What a christening for unseasoned Madame Charcot ! It took them only two months to reach the South American coast, after putting in first at Madeira and then at Cape Verde. They had an unpleasant time crossing the Equator, with 104° F. in the cabins, so they slept on mattresses on deck. It was a trying ordeal for the passenger, who became ill during the crossing.

At Rio de Janeiro they were given such a warm welcome that 'we no longer dared to express a wish for fear of seeming indiscreet.'¹ In a letter to Jeanne, Charcot writes : 'Oppressive heat, torrential rain, visits, champagne, presents from the government and personal gifts. In this Republic where the Emperor is still looked upon as a great man and a benefactor, a very vivid memory of father is preserved. I think Rio is magnificent, with Naples a poor second. What hordes of negroes ! They are intelligent, industrious and highly civilised, and are perhaps more interesting than anything else. Everything on board is going well and good humour reigns.'

A week later the *Pourquoi Pas ?* made her entry into Buenos Aires, and was given a triumphal welcome. The Government voted unlimited credits for the expedition. A faint note of melancholy mingled with their joy : the *Français* was only a skeleton stranded on a sandbank in the Rio de la Plata ; nothing but the tips of her three masts showed

¹ Jean Charcot, *Autour du Pole Sud—Expedition du 'Pourquoi Pas ?' (1908-10)*, Flammarion, Paris.

above the waves. In a letter dated November 20th Charcot writes : 'With extraordinary generosity the *Pourquoi Pas ?* has been overhauled from truck to keelson, every little detail attended to, all the alterations suggested during the crossing carried out, and finally, everything we could wish for given without a second thought. I have even been promised a rescue party if the need should arise ! I am obliged to act the schoolmaster, for the staff is very nice, but oh, so young !'

On December 1st the *Pourquoi Pas ?* reached the end of her cruise in civilised waters ; she dropped anchor at Punta Arenas¹ in the Straits of Magellan. There they were given as hearty a welcome by the people of Chile as they had been by the Argentines and the Brazilians. Three more letters were sent to Jeanne, dated from Punta Arenas. On December 11th : 'We have everything we need on board now, and, considering the modest means I had at my disposal, I think we are even better equipped than we could have expected. . . . Meg's departure is going to be very painful, but she is facing it bravely ; it is a nightmare looming gradually nearer. And now, my darling sister, have confidence in your future and in mine, remember how dearly I love you, and that I long to know that you are happy and contented, and that I shall always remember our past together.'

On the 15th he adds : 'I have decided to leave straight from here, without putting in at Ushuaia.' The next letter comes from Deception Island and is dated Christmas Day, to thank his sister for the presents she had prepared for him. 'This time, I am a real expedition leader, and, if all goes well, I shall have a tremendous undertaking on my shoulders—I rarely sleep more than three or four hours.'

The *Pourquoi Pas ?* had sailed towards the unknown, now

¹ Now known as Magallanes.

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she was on the threshold of her work. Her moorings with the civilised world were cast off. A man whom nothing had forced to go, who knew to the full what sufferings awaited him, Charcot had torn himself away from his pleasant family life to accomplish his self-imposed task.

And alone in a foreign port at the very end of the earth his wife watched her beloved white ship fade on the horizon. She made the long journey back alone, in oppressive heat, on a strange liner. Had those few months of happiness been a dream without a morrow ? . . .

A Successful Summer

By Murray Channel and Beagle Channel, in driving rain the *Pourquoi Pas ?* rounded the terrible Cape Horn, which tried to put on a pleasant mood for their benefit. Many of the men on board were very seasick. Their deck was piled so high with briquettes of coal that the scuppers were stopped up. Once again the last ship they saw was a French one, this time she was a big three-master from Nantes, the *Michelet*, who signalled them 'Good Luck !'

They had reached Smith Island in six days, then made for Deception Island. A little Norwegian whaler, the *Raun*, put out to sea to pilot the *Pourquoi Pas ?* safely into harbour. Deception Island was a busy little Norwegian port. A whole fleet of whalers was established there, and the unbearable stench of whale carcasses was everywhere ; a gloomy landscape with the skeletons of huge whales lying in the snow. Charcot made friends with these rough but courteous men, whose boats were always spotlessly clean and well looked after. They showed him their method of whaling. In the old days the prey, speared by a harpoon, would tow the ship until it was exhausted. But a Norwegian inventor, Svend Foyn, had produced a harpoon that could be shot from a gun. When the whale was hit the two branches of the harpoon widened out, and caused the explosion of a small shell. The body could then be drawn in with a windlass, moored alongside, and inflated to prevent it sinking.

Charcot was delighted to hear that the *Français* expedition had already been of some use to the whale-fishers, who, thanks to his new map of the north-west coast of the Palmer Archipelago, had been able to extend their fishing-grounds. Captain Andresen, of the Magellan Whaling Company, offered to call at Port Lockroy and Wandel Island, if possible, in January 1910, if there was no news of them, and promised them coal at Deception Island on their return. Charcot was able to show his gratitude by prescribing for Madame Andresen, the only woman in the Antarctic, and he and Liouville amputated the hand of a badly injured workman and saved him from gangrene. Meanwhile the staff set to work with their observations, and the crew tried out their skis on the nursery slopes of Pendulum Cove, where they were anchored.

On Christmas Day the *Pourquoi Pas ?* set out on the same route as that taken by the *Français*. In her turn she moored at Port Lockroy, then at Port Charcot on Wandel Island, finding the magnetic cabins and portable hut almost intact, and the cairn with its document untouched. "The collections at this letter-box are very irregular," said Charcot, "so far we have been the only postmen!"

The newcomers had their introduction to the penguins and the icebergs. They were all amazed at the huge stretches of ice crashing into one another in a heavy swell, sometimes carrying a sleeping seal paying no attention to the pitching and rocking of his cradle.

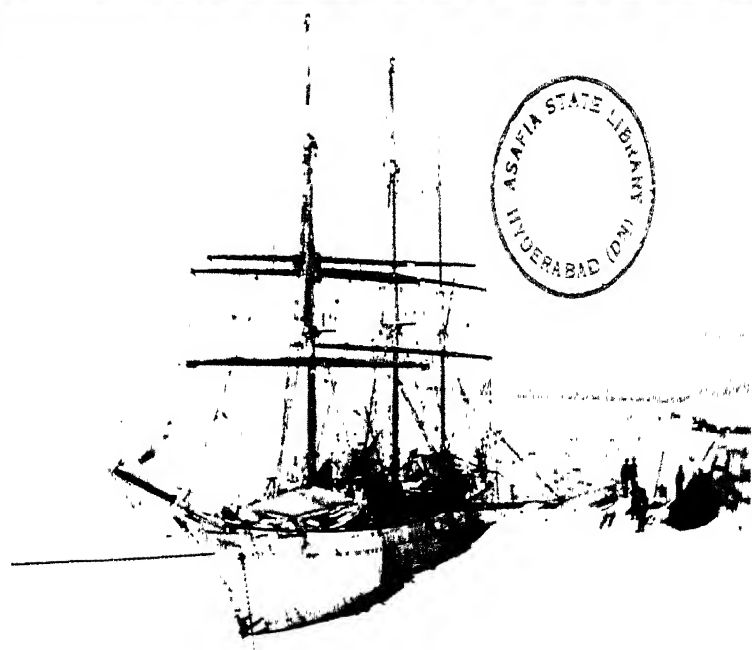
New Year's Day of 1909 made a pleasant gap in the work. 'All the bells, fog-horns and gramophones on board sounded a piercing, jangling din to greet the New Year. The great surprise of the day was eating fresh grapes.'

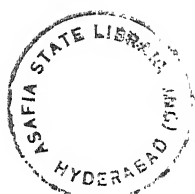
'My first thoughts of the year,' wrote Charcot in his diary, 'were of my loved ones, of my brave, loyal wife, who not

only allowed me to do my duty, but even encouraged and helped me.' His feeling for religion had become more defined. 'I pray God, on this morning of the first day of the year, to give me the strength and the power to be equal to the task which I willingly undertook, in an attempt to be of some slight degree of use to my country.'

After much deliberation Charcot had decided that they would attempt to follow the coast southwards, making their way between it and the Biscoe Islands. It would be a dangerous journey, but one of very great interest. The *Pourquoi Pas ?* was kept prisoner in Port Charcot by a strong northeasterly gale ; ice-blocks had incessantly to be pushed away as they bore down on the ship. The picket-boat made a journey over to Petermann Island, and there an inlet was found which would make an excellent harbour. It was Circumcision Day, and in honour of the French explorer Bouvet, who had named an island and a cape Circumcision on that same day, this little harbour was called Port Circumcision. Charcot was able to study the state of the ice from the top of a hill, and decided to set off for the south at once.

On January 3rd the *Pourquoi Pas ?* left Wandel Island and made Port Circumcision in a heavy snowstorm. On the 4th Charcot, Gourdon and Godfroy set off in the picket-boat to reconnoitre round Cape Tuxen (which had been reached with such difficulty with the whaler of the *Français*) and the Berthelot Islands ; from there he would be able to inspect the state of the ice farther south. On the outward journey all went well, the sea was free of ice, and the trip was made in a few hours, where before it had taken them six days, but when the picket-boat tried to return to Port Circumcision snow was beginning to fall, the sun was hidden, and they found that thick pack-ice was pressing in on the coast. They





set out in a narrow winding channel, but soon this channel closed, and others opened out, ending in pools which had no exit. 'We saw a channel forming, but to get there we had to cross a large expanse of ice. When this was not too thick the picket-boat, by going alternately full speed ahead and then astern, very slowly cut a way for herself. But soon this became impossible. Then we climbed on to the fragile ice, and tried to cut a channel with a spade and the boat-hooks. It was a slow and exhausting job. The spade was our best tool, but most unfortunately it slipped from Godfroy's benumbed hands and sank ! We laughed at the mishap, and at the woebegone face of our excellent friend, but our efforts, that were not much good before, became almost useless. The ice, moreover, became so thick that we should have been able to do nothing, even with the spade. A large stretch of free water lay ahead, but we were completely blocked in.'

The whole conformation of the pack-ice had altered. After passing many hours of hope and misery, extremely uncomfortable in their wringing wet clothes, with no food but three biscuits and a little chocolate, they decided to abandon the boat and try to reach Cape Tuxen by way of the summits of the ice-cliff. Suddenly, and just in time, the siren of the *Pourquoi Pas ?* was heard, snow ceased to fall and the fog lifted. Swallowing down their remaining provisions they gave the name of Deliverance Point to the rock from which they saw the *Pourquoi Pas ?* approaching.

They were delighting in warm clothes and a good meal when suddenly there was a terrible shock. The *Pourquoi Pas ?* had stranded ! At low-tide it was seen that the iron stem was twisted and broken, and the false keel ripped for a long way. They worked all day shifting weight to the

stern, and at midnight, at high-tide, the engine was started. Ahead . . . astern . . . full speed—and with a terrible, long-drawn-out grinding noise the ship was off the rock. They had no means of knowing the extent of the damage: was the hardly begun expedition to come to such an inglorious end? Charcot now distrusted the depth of water round icebergs. If the *Français* had met with such a grave mishap, it was because he had thought, with most explorers, that the submerged part of icebergs always went down to a depth at least three times as great as their height above water, whereas in reality it seemed as though they were often built up on rocks.

After returning to Port Circumcision, they set sail once more and made rapid headway towards the south. Charcot's state of mind was quite different from what it had been on the previous expedition. What had amazed him before was now a matter for recognition: the inevitable north-easterly gales, the feeling of giddiness caused by the soft fall of snow on the black water in the night. . . . The lands he touched at bore the names he had given them . . . Mount Français, Mont du Matin, Victor Hugo Island, Loubet Land. He felt like a feudal lord inspecting his domain of rock and ice, and the penguins were his faithful subjects, come to greet him.

There was considerably less ice than there had been in 1904-5. They sailed past the Biscoe Islands, and on January 14th, in very fine weather, they were off the northerly point of Adelaide Island. Charcot had named this Loubet Land when he sighted it from the west on his previous expedition. But so that President Loubet should not be the loser his name was given to land discovered east of Adelaide Island. After giving the name of Matha to a large bay, they took advantage of the exceptionally good weather to sail south once more.

Biscoë had said that Adelaide Island was 8 miles in length, after sailing down the coast for a day and a night, continually expecting to see a cape which would mark its end, Charcot was able to state that it was no less than 70 miles long ! Icebergs and ice-blocks were the menace in that region ; always on the move, changing their direction with surprising rapidity, they were a constant danger to the ship, whether it was moving, stationary, or moored. Adelaide Island ended abruptly in a cape they named Cape Alexandra, and beyond it opened a large bay, or rather a gulf, with an island lying in it. Capes, glaciers and mountains were distinguishable farther south through the mist ; now, indeed, they were seeing new lands, and both Charcot and his companions felt a thrill of real emotion. They advanced cautiously, sounding as they went, for the large bay stretching before them, named Marguerite Bay, was full of rocks just below the surface of the water, and was also blocked with pack-ice. The island lying in the bay was named Jenny, after Bongrain's wife. They had a stiff climb in the hot sun to the crest of the mountain on the island, and from there Charcot tried to locate channels in order to be able to continue his navigation towards the south. Alexander I Land was not visible, though only a few miles away ; it was probably hidden by local fog. Yet later, in less clear weather, it could be seen from the foot of the mountain. ' This proves once more,' writes Charcot, ' how all statements in the Antarctic are subject to error. In this beautiful weather, which allowed us to see other lands a considerable distance away, Alexander I Land, though large and but a few miles distant, was invisible, without anything to make us suspect the limitations of our view. We might, therefore, with the best faith in the world, have confidently asserted on our return that to the south-west

there was no land within the limit of sight, from an elevation of 1,400 feet.' On their return to the ship the sun was so hot that after a cold tub on deck they were able to sunbathe for half an hour.

The land lying south of Loubet Land and east of Marguerite Bay was named Fallières Land ; it seemed to be a continuation of Loubet Land. Charcot took advantage of the unusually fine weather to go ahead as quickly as possible, and steamed south-west. They sailed to within fifteen miles of Alexander I Land, and had clear views of that land and of the southerly point of Fallières Land, but ice prevented any further advance. They returned to Marguerite Bay. On January 21st they managed to push their way to within two miles of Alexander I Land ; intensive scientific work was done, and then it was time to be off, the ice was already closing round them. On January 24th Bongrain, Gain and Boland made an excursion in the ship's boat which enabled them to state that Adelaide Island was definitely an island, though only a very narrow strait separated it from the mainland. 'We are now already in a position to take back precise information concerning the lands south of Adelaide Island, where the present maps are blank, and concerning Alexander I Land, which up till now has only been seen from far away, and always from the same side, and has seemed rather like a legendary land,' writes Charcot.

Charcot had set his heart on wintering in Marguerite Bay, but though he spent all his spare time searching, he could find no suitable cove. By staying there they were burning badly needed coal, as they had to keep up steam all the time, and it was a dangerous place from the point of view of winds and the ice. By having safe and serviceable winter quarters there would be coal enough left for another interesting

and adventurous summer campaign the following year. On January 29th he wrote : 'The whole day is spent in watching the ice-blocks and pushing off those that approach us. The blows we receive are formidable, and their frequency makes them dangerous even for a vessel as stout as ours. My cabin writing-desk, which is fixed to a beam, gets such knocks that everything is upset, and it is quite impossible for me to write at it.'

At this juncture Charcot gave proof of his extreme prudence, all the more praiseworthy because the thrill of discovery might easily have blinded him and lured him on. Not for one moment did he forget that he had men in his charge, and that his mission was to collect valuable scientific data, not to take risks. On January 30th they regretfully left Marguerite Bay, leaving a cairn on Jenny Island. 'A little before 3 o'clock the sun rose, and the lighting effects were wonderful. Some of the icebergs were coloured purple, others violet, others looked like great masses of molten iron, some were blue or a dazzling silver-white.'

The *Pourquoi Pas ?* put in at Matha Bay, but found no suitable place for wintering there, and, after consulting with his staff, Charcot decided to go back to Petermann Island and winter in Port Circumcision.

The 'Pourquoi Pas?' at Port Circumcision

'OUR kingdom is about 2 miles long. The island consists of two blocks connected by an isthmus half a mile wide, which goes between two picturesque fjords with steep cliffs. The northern block is a large ice-cap 400 feet high, with scarped cliffs ; it ends in the north-west with an outcrop of large bare rocks. The only possible passage by land from the southern block to the northern entails a stiff climb, both when it is covered in soft snow, and when the snow has blown away leaving an icy surface. We took possession of the southern block, also an ice-cap, about 150 feet high, which slopes gently down to the coast. . . . On the north-eastern slope of our block there are some very picturesque rocks with penguin rockeries on them.'

They went to work to instal themselves comfortably for the winter, and to get up the buildings they would need for their scientific observations. A wooden hut was put up for observations on terrestrial magnetism, another for a study of atmospheric electricity, a shelter for the meteorological instruments, a hut for the seismograph and one for the transit instrument and its accessories. 'Thus the island bristled with odd-looking buildings, whose upkeep, alteration and improvement are our constant occupation.'

The *Pourquoi Pas ?* was equipped with electric light. Charcot had intended to treat it as a luxury, to be used only once or twice a week and on very special occasions. But under

Bongrain's skilful handling the De Dion motor supplied them with light constantly for two years. Now the light was carried from the ship, the wires supported by bamboo poles, to the different observatories, a 'luxury impossible to appreciate too deeply. During the wintering of the *Français* one of our greatest preoccupations and greatest troubles was just this question of illumination. We used to set out, equipped with what we considered our best lantern, protecting it with care against the wind—and just as we were about to use it a gust of wind would blow it out. As it was no use thinking of trying to light a match in the snow and the tempest, we simply had to return to the ship to relight the lantern, and often we had to do this three or four times before accomplishing our object.' Bongrain also ingeniously arranged for the clocks on board to transmit the time to the transit instrument.

The ship was securely moored, with hawsers to keep her in place, and her two anchor-chains were firmly secured to rocks to port and starboard. Three double iron-wire hawsers were stretched across the mouth of the cove to prevent the entry of ice-blocks. The ship's engine was taken down. Large awnings were stretched fore and aft over the decks, making two extra saloons. The top-gallant yards were unrigged and lowered; fastened together with planks they made a good gangway between the ship and the shore. Finally the provisions, boats, skis, sledges and paraffin were unloaded.

All this work took about a month, during which time there were strong north-easterly gales, snow and overcast skies. A journey in the picket-boat was made to Wandel Island, and a message was left there as to their whereabouts. The portable hut left there by the *Français* was roofless, but

otherwise in good condition, and it was dug from its icy socket and removed to Petermann Island, where it joined the other buildings.

On February 23rd Shrove Tuesday was celebrated with the usual carnival. Everyone dressed up for lunch, and afterwards there was a comic procession on the snow, a parade at which the penguins, silent, for once, with amazement, were the only spectators.

The autumn was strangely mild and muggy, and the ship was not frozen in ; she pitched and tossed as icebergs broke up or capsized, and the hawsers were continually being worn away by the chafing of the ice-blocks. Charcot gives an amusing account of a supercilious seal watching them as they pushed and towed a big iceberg away from the ship : ' . . . I threw a big snowball full in its face, and with an air of offended dignity it snorted its disapproval of the liberty I had dared to take.' In the month of March a successful expedition was made to Beascochea Bay, and an interesting ascent of the glacier on Graham Land opposite their anchorage.

Respecting the liberty of his companions, Charcot often refrained from accompanying them on excursions. A good psychologist, he was convinced that the French character is such ' that interest in the general good gives way easily before the desire to act alone.'

To the relief of everyone the weather improved slightly in April. The excessive damp and rain had given them all bad chilblains, and they had had to light the mess-room stove ; they had put this off as long as possible so as to economise their fuel. ' I always thought that one of the greatest comforts of this part of the world,' wrote Charcot, ' was the absence of rain, and the fact that one could go out without one's umbrella ! Now those of us who possess such things have

to show their respect for local colour and refrain from opening them—they would be carried away by the wind.' Then the squalls and storms were on them again. With the heavier falls of snow their stores were buried deeper and deeper, and regular searches were needed to find what was wanted. Charcot had personally supervised the packing of all the provisions. He had arranged for each case to contain selected food for three men for one day, and it was found that his forethought saved a great deal of trouble. Godfroy's tide-scale became too near the ground to be of any use, and he had recourse to the method used by the *Discovery*, of setting it up on a 14-foot tripod. Petrels and gulls helped the naturalists in their work of stripping seal skeletons—a strange existence for these men who would pass from the most abstract speculations and the most delicate scientific operations to unpleasant, repulsive tasks !

'Observations continue to be made day by day, each member of the staff working enthusiastically and without any relaxation, happy to be able to note an interesting specimen or fact, to suggest useful alterations for our instruments,' wrote Charcot. 'I entrust each one with the direction and full responsibility for his work, only asking for monthly reports, persuaded that with serious workers who have always carried out their duties conscientiously my method of confidence gives the best results. I spare no effort to make things easy for them, and to see that they have everything they need.'

In May, when only a few hours of misty gloom took the place of daylight, the winter programme was enforced. Charcot considered physical exercise all-important, and every morning a few hours were spent in the arduous duty of collecting fresh water ; this necessitated a fairly long trip

inland, and digging, heaving, pushing and lifting. This was followed by routine work on board or at the observation posts. After an excellent lunch, for the *Pourquoi Pas ?* was stocked with first-class food, ski-ing and tobogganing were never-failing amusements. In the evening there were optional classes for the crew, with lessons in arithmetic, grammar, geography, navigation and English ; Liouville gave very well-attended first-aid lectures. If the weather made it quite impossible to go out they stayed in reading, or doing 'home-work' for their classes. There were some 1,500 books and copies of *Le Matin*, two years old, which Charcot put out regularly day by day. He says himself: 'The out-of-date news, the scandals, the *affaires*, interest me just as much as if I had never heard of them before ; I had forgotten them nearly all, and I await the next day's issue with impatience. I am now much better acquainted with my country's politics, and world happenings in 1907, than I ever have been, and probably ever shall be again.' Rouch enlivened many evenings by reading instalments of the serial novel he was writing : *The Typist's Lover*. Favourite games in the ward-room were chess and dominoes. 'We are probably the only civilised community which does not play bridge,' noted Charcot. Cholet, who had been with Charcot so many years, amused himself by making ships in bottles ; he was given smaller and smaller bottles to test his skill, and eventually he succeeded in getting a whaler, complete with oars, into a tiny medicine bottle. Every opportunity was seized for celebrating birthdays and anniversaries, and all the cook's ingenuity was needed for enriching the menu—though an experiment with six Antarctic prawns was not at all a success !

Finally Charcot founded the Antarctic Sporting Club, which held fortnightly meetings. A track was marked out

with ski-sticks decorated with multi-coloured flags, and the programme of events included an endurance race for the skiers, a speed race, and a race in which any means of transport whatever might be used. Tin-can medals were regularly distributed. Charcot's birthday was celebrated with a splendid dramatic entertainment, and following its success a Musical Society was formed 'which keeps everyone amused.'

These distractions, glad of them though he was for the sake of the others, could not lessen Charcot's regret at not wintering farther south.

It would seem from his accounts that he did not feel the same excitement on this second expedition as he had on the first. Perhaps one can never undertake the same enterprise a second time with the same enthusiasm, perhaps there was no longer the same close link of friendship between him and his companions ; and then, he had not left under the same conditions : this time he had had to tear himself away reluctantly from a home he had no desire to leave. The childlike enthusiasm which reigned on the *Français*, where life was rough and ready was not as remarkable in the *Pourquoi Pas ?*, where, by comparison, there was every comfort : the men tended to be the more exacting if the slightest detail was amiss. 'We need the occupation of our work, and a strong determination not to let ourselves be beaten,' wrote Charcot, 'if we are to be saved from being completely demoralised by the horrors of this climate.' He was no exception to the rule that every sailor during the worst weather, swears never to set foot on a ship again. . . . On board the *Pourquoi Pas ?* he must have read with a smile a passage in his diary of the previous expedition, in which he declared that if he ever got back to France, he would never seek adventure again.

But throughout his life he was never to turn his back on adventure.

Each one in turn suffered from *cafard polaire*, the homesickness often experienced in the darkness and cold of the Polar regions, as a result of life under abnormal conditions in a small restricted community. What could be more difficult than to be shut up for nine months with men who are not chosen friends, with only the link of common work to be done? Yet *cafard polaire*, Charcot claimed, 'does not create new and temporary defects in a character; a good fellow remains a good fellow; the owner of good manners does not lose them. Here, as elsewhere, upbringing is all important.' In the crew's quarters so long as the wine ration—'Chateau de Cambusard,' as it was known—was regular, all was well. Charcot had got over the difficulty of carrying the large quantities of wine necessary by taking wine very strong in alcohol. This was diluted just before serving with warm water. 'The French sailor is the best of fellows, but he must have his regular *demi-litre*, without which he considers himself lost!'

Towards the end of June illness made an alarming appearance. Polar anæmia or scurvy, they were not sure which. Godfroy and Charcot were the victims; they suffered from badly swollen legs and difficulty in breathing. Was this to be a prelude to the myocarditis from which Matha suffered? But in spite of their anxiety the national holiday of July 14th was celebrated with great rejoicings; there were fireworks manufactured by Gain, and a torchlight procession on the island, followed by a big bonfire, fed with penguin blubber. Staff and crew danced to the sound of the accordion in the mess-room: '. . . On the smoky mess deck, divided up by the stout wooden ribs of the ship, the crew, with their strong

faces and picturesque clothing, patched according to taste, their knives at the waist, their hair and beards wild, leapt about and hurled loud challenges. It might all have been a century earlier, between decks on a pirate ship rejoicing over a fine prize, heedless of future combats. And are they not the descendants of those corsairs, inheriting their taste for adventure, their child-like characteristics, their courage and feeling for honour?’

Bad weather raged, and the fight against invading ice-blocks continued. Excursions ashore were put off till September. ‘Our life on board goes on, busy yet monotonous, and if the months pass quickly, the hours are long.’

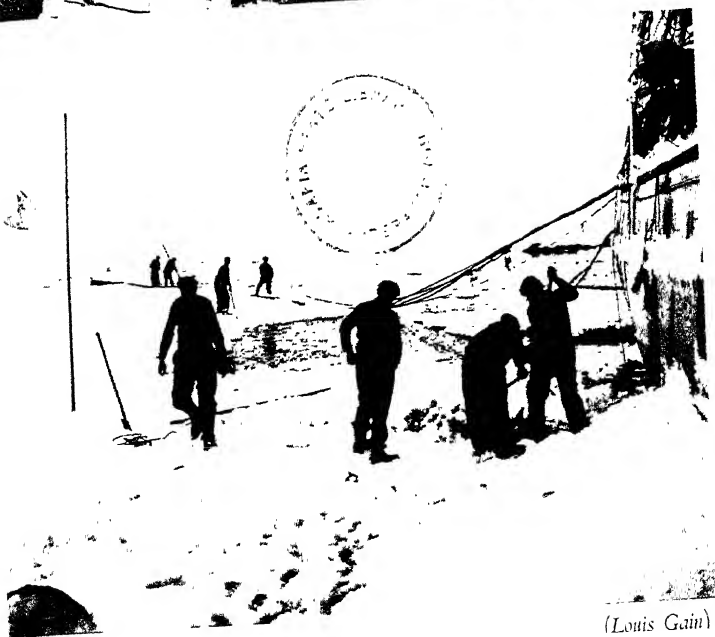
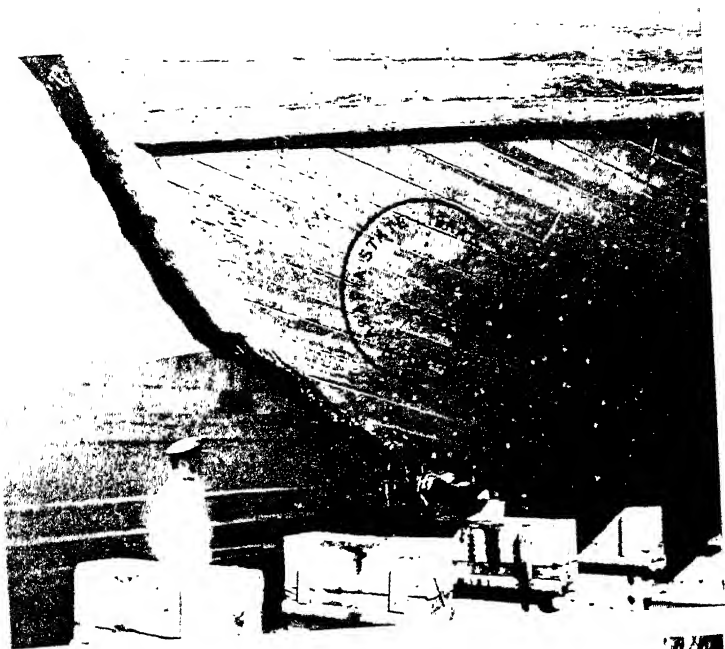
Charcot had planned that two groups of three men should leave on a journey to explore the glacier which they hoped would lead them to the supposed ‘inlandsis’¹ of Graham Land. They were to go with ordinary man-drawn sledges; the motor sledges were never satisfactory.

The snow persisted, and, what was worse, in spite of a regular diet of seal-meat Charcot and Godfroy, after a temporary improvement, fell ill again. The latter tried to recover by ‘following the doctor’s orders,’ Charcot refused to give in and made every effort to continue with his normal life. Soon they both had to acknowledge that they would not be able to take part in the journey. Charcot’s medical knowledge justified the anxiety he felt. In the night, the only man awake, he suffered from a terrible sensation of suffocation and a piercing pain in his heart, and his mental anguish in no way relieved his suffering. But he gained knowledge from his sickness: it was scurvy that they had, the same scurvy which, in times gone by, had decimated the crews of sailing ships. The cause was the same, a con-

¹ Vast inland ice-tract.

tinued lack of fresh food, but the form of the disease had developed. Whilst pain strangled his heart Charcot must have thought of the complaint which killed his father, and which he feared above all others. He remembered the *Discovery's* experiment, and their finding that freshly killed meat had a good effect on the complaint. But they soon found that the total suppression of preserved food cured this form of scurvy, and that simply adding fresh meat to the diet was not enough. Seal-hunting was organised, but Charcot, with his love of animals, forbade the killing of any females. One day the men fetched him to look at a newly born seal.

'Nothing could be more moving in the midst of these sinister, seemingly lifeless, surroundings than this little creature, so uncannily human, dainty in appearance and proportion beside its mother's clumsy bulk. Covered with thick yellow silky fur, spotted with black, his body apparently quite boneless, he spends most of the time on his back, playing like a child, stretching out his flippers, frolicking about, rubbing up against his mother with his funny little round face and his big eyes, bewildered and mischievous. . . . I went up to him, and with infinite care took the little creature in my arms. He was delighted, showing no sign of fear, snuggling up against me like a baby ; and when I set his soft, silky little body back on the snow, he came waddling over to me, rubbing against my legs and asking to be fondled again. I must confess that the memory haunting me of the little one I left at home in France, came back to me so vividly that I had a lump in my throat. . . . I felt embarrassed in front of the others, and did not pick up the baby seal again, much as I longed to caress and pet it.' Every day Charcot watched the mother seal give lessons to her baby, teaching it how to



The Lumber

(Louis Gain)



sweep the snow away with its head, so as to clear a path for itself.

On September 18th the Gourdon-Gain-Senouque expedition set off, in calm, overcast weather. They returned on October 2nd, having been able to explore the Middle Glacier, which they found ended in 'a vast amphitheatre—but a cul-de-sac. In an apparently horizontal line, perhaps the edge of a plateau, which makes our disappointment more galling than ever, there is a weltering chaos of glaciers, falling in an irregular stairway. The valley through which we passed was choked with snow, and at its end fearful avalanches had broken enormous masses of ice from the side of the mountain, which lay at its base, all broken up, in long slopes of blocks and dust. We called it the Amphitheatre of Avalanches,' writes Gourdon in his report. They had encountered a terrible snowstorm, which isolated the two parties in their tents for forty-eight hours, and had had to climb desperately steep slopes.

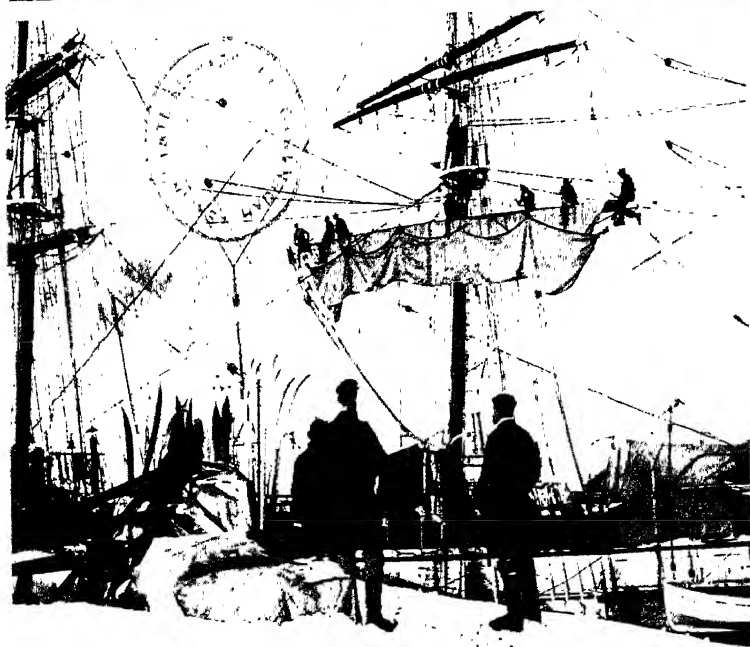
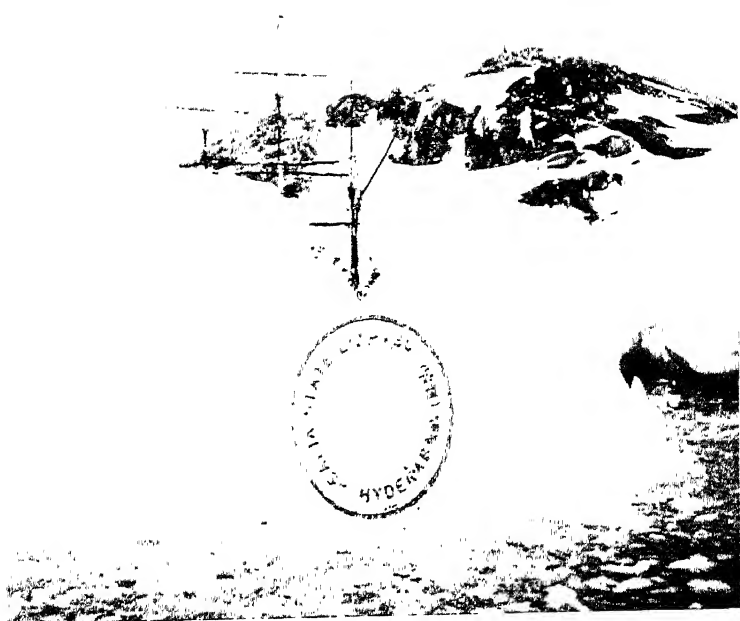
Charcot made the first day trip since his illness on October 15th, but he suffered from a terrible feeling of weakness, and his shame at this weakness caused him as much unhappiness as the physical pain.

With the return of spring the penguins and other birds returned. By means of the rings which he had put round their legs in the autumn Gain was able to establish the fact that only the full-grown penguins returned to the rockery, the young ones probably seeking their fortunes in new lands.

Charcot Land

ON October 31st the fitting out of the *Pourquoi Pas ?* was begun, and by November 23rd they were ready to leave. The boiler and water-barrels had to be filled with fresh water, and an onslaught was made on the ice, but even so it was found necessary to melt snow in the clothes-boiler. Then they tried out the engine, and Charcot's heart beat faster when he heard the heart of the *Pourquoi Pas ?* throb once again. On November 25th they said good-bye to Port Circumcision and Petermann Island.

They were making for Deception Island, to collect the hundred tons of coal promised by Captain Andresen, and fervently hoping that in that respect the island would not live up to the promise of its name ! After many lonely hours spent up in the crow's nest on the upper yard, a bitter disappointment awaited Charcot on his arrival there on the 27th. After a year of isolation the letters he so eagerly awaited had not arrived (they had been sent to Punta Arenas), and there was no news from his family ! 'It was an awful moment,' he writes. He learnt from the Andresens that Peary, the American explorer, had reached the North Pole, and that Shackleton had got within 112 miles of the South Pole. In a despondent mood, and with his usual lack of self-confidence, he underestimated the results of the work of his own expedition. In a letter dated December 1st, 1909, this strong, forceful man gave way to despair : 'I





don't know when you will get this letter, if you ever do. . . .

'We have not done too badly, but not nearly as well as I had hoped, and though I rejoice at the successes of Shackleton, Peary and Cook, they will make our efforts look very mediocre. Yet I have done what I could here in these unfriendly and difficult circumstances. It has been by no means cheerful, with not much immediate satisfaction at any rate. I have had a bad attack of myocarditis, my legs were swollen up to the thighs, but I put up a good fight, and once I realised that scurvy was the cause of the trouble I was able to cure myself. I found myself helpless and weakened, with more friends among the crew than among the staff, who are of a different generation ; nothing sensational about the expedition to cheer me up. I suffered mentally more than physically. I patiently went on with my own job, never giving way to violence or anger, and I honestly think I have made the best of both people and circumstances. Now we must go on, striving to save the situation by a fruitful summer campaign ; but the ice promises to be difficult, the men are worn out by a hard, monotonous winter, and the ship by a stiff struggle in the ice, and by a very serious grounding which tore away a large piece of the bows. I must do all I can to avoid a second wintering, for which I have no desire, and which, really, I dread. I want to hasten back to my happiness—if I am ever to get back at all. But one must go on, and do one's duty : that is my one guiding thought. God knows that personally I care but little for honours and glory.'

Here, under the influence of physical depression appears a trait of Charcot's character, that of hyper-sensibility. It made him brood over trivialities, and was responsible for an exaggerated pessimism hidden under a gay exterior, an

agonised fear of what the future held in store. Actually few people have been more favoured by circumstance than he was, no one more sustained by tried friendships, but he felt so great a need for affection and approval that he readily imagined that he lacked them. Later he paid a just tribute to the friendship of his companions on board, with whom he remained on the best of terms.

Surrounded by the simple, friendly whalers, Charcot soon recovered his love of life. His friends the Andresens supplied him with the coal he needed, and everyone was obliging and charming. An admirable spirit reigned in the little community on Deception Island. 'In spite of the rivalry between the different companies,' Charcot observes, 'directors, crews and captains help each other in every way, especially over the fresh-water difficulty.' The scientific work of the *Pourquoi Pas ?* was continued in spite of the halt; very little was known, scientifically, of Deception Island, and Charcot arranged with a young Danish doctor stationed with the whalers to continue making observations after their departure.

Charcot went out with the Andresens on a whaling trip—praying fervently that the whales would get away. He was obviously no 'sportsman'! But he admired the strenuous labour of the whalers who, by their small monthly wage and share in the profits, ensured the well-being of their families in the little thatched cottages in far-away Norway. Their only respite was when they had captured several whales and were towing them in, otherwise they worked unceasingly.

The *Pourquoi Pas ?* was leaking at the rate of two tons of water an hour, there was no getting away from that hard fact. And the summer was going to be very difficult; the whalers said that they had never seen so much ice. A diver

examined the hull of the ship. The situation was desperate : the stem below the water-line had been torn away, and several feet of the keel. "The slightest knock and you'd go to the bottom. You can't possibly sail through the ice with a ship like this !" he assured Charcot, who had asked him to keep the result of the examination a personal matter between them. In vain did Andresen join with the diver in attempting to dissuade Charcot from going south again. 'I thanked them both,' writes Charcot, 'but begged them not to say a word of it to anyone. We *must* go on with the task we have undertaken : our honour, and, more important still, the honour of our country, is at stake. Nothing would induce me to give up our summer campaign. These men understood : if they were in my place they would do what I am doing.'

What inspired Charcot to make this decision ? A feeling that they would succeed, or a conviction that they would rather die a glorious death than have the humiliation of returning with insufficient results ? Thoughts of safety were of secondary importance to them when honour was at stake. Do not they merit our admiration in taking this cold-blooded decision ? The men, when they knew the truth, supported him unanimously. 'Danger shared gives equal merit.'

Charcot's aim was threefold : to make extensive collections, especially in the neighbourhood of Hope Bay, where Nordenskjöld had already been ; to make a hydrographical survey of the bays of Joinville Island, marking out the best shelter for the whalers—for he was always eager to do anything he could for the workers of the world—and then to push as far south as possible in order to mark new discoveries on the map.

As in the preceding year they left on Christmas Eve. The

CHARCOT LAND

Pourquoi Pas ? had a thick coating of whale-oil as a result of her sojourn in the oily waters in Deception Island. The coast 'shone with a golden light, that light characteristic of Polar lands when brightly lit by the sun.' Once again, as Charcot loved to quote :

As flies to wanton birds,
So are we to the gods——

They kept New Year's Eve in Admiralty Bay, surrounded by high black mountains, bare of snow, rising each side of majestic glaciers. On the next day they sighted Bridgeman Island, and a scientific expedition landed there for the first time. Their voyage had enabled them to reaffirm that Middle Island was no island, but a promontory of Greenwich Island. They celebrated Twelfth Night with the traditional Galette des Rois ; but instead of the usual tiny charm, there was a pebble hidden in their cake, one that the tow-net had picked up off Alexander I Land. Snow began to fall : 'In the silence of the night can be heard the sound of the clashing ice, tossed in the swell, sounding like the distant murmur of a town from the heart of a valley. It is the voice of the Antarctic, which can be gentle when it pleases.'

On January 7th there was a heavy swell and a choppy sea. Gourdon and Charcot were the only members of the staff to appear at lunch-time.

Now they were sailing south once more, skirting the pack-ice and avoiding ground that had been covered the previous summer. On attaining lat. 69° S. Alexander I Land was seen from a new angle, and Charcot, in his crow's nest, suddenly thought he saw something unusual to the south-east. Was it only an iceberg, or was it more ? He confided his hope to no one, for fear he was mistaken. 'I ordered the

LAND SIGHTED

engine to be started up, and, to everyone's astonishment, contradicted my previous arrangements, and gave the order to steer east. I ate a quick lunch so as not to attract attention, and then climbed hastily up to the crow's nest again, taking my field-glasses. There is no longer the slightest doubt possible ; those are not icebergs that lift their pointed peaks towards the sky, but land, a new land, land clearly visible to the naked eye, a land all our own !¹

'One needs to have lived through these months of anxious waiting, of fear and lack of success, of the longing to do well, the desire to bring back something of importance to one's country, to realise the full meaning of those two words, which I whispered over and over again : *new land* ! I called Bongrain up to the topgallant mast, and handed him my glasses, asking him not to say anything aloud, if he saw anything. He uttered but one word : "Oh !"'

There were two high mountainous masses, and between them a smaller mass, on long. 75° W and lat. 70° S. From this discovery Charcot surmised that Fallières Land probably continued westwards either in an unbroken stretch of land, or in an archipelago. Would they have to be content with sighting the land, or would they be able to draw nearer ?

Charcot turned a blind eye on the damage to the stem, and ventured into the pack-ice. They pushed their way ahead with poles, for the ice would have smashed the propeller if the engine had been running, but soon they were forced to turn back. Then they were again in clear water amidst gigantic icebergs. These were a wonderful sight, and Charcot described the scene with a grandeur worthy of his subject : 'The sea breaks on their base with a dull crash,

¹ Later named Charcot Land.

now hurling the spray to tremendous heights, now invading the echoing grottos, then pouring out again with a torrential roar. The mighty sea and the colossal icebergs indulge in a giant's game under the lowering grey sky, caressing each other and then crashing together ; and in the midst of Nature's incredible display, not made for the eye of man, one feels that one's presence is but tolerated, though a kind of bond grows between us and our noble hosts. An indescribable chaos could be seen at about five o'clock in the evening : some of the icy monsters laid low, others smashed to pieces as though after a deadly battle. And all around, others, grouped like an audience, or like warriors awaiting their turn to enter the lists, displayed their stark white shapes.'

On January 12th the *Pourquoi Pas ?* reached long. $68^{\circ} 30'$ W. where Cook in 1774 had attained lat. $71^{\circ} 10'$ S. Rather than give way to the useless vainglory of beating this record by pushing their way south, at the cost of badly needed coal, Charcot in a truly scientific spirit decided to continue westwards. He had passed beyond the latitudes reached by Bellingshausen and Biscoe. They were the first to see Peter I Island since its discovery by Bellingshausen in 1821, but they had to make a hurried departure, owing to a bad storm. They continued westwards until January 22nd, sailing all the time between lat. 69° S. and 70° S. until they attained long. 122° W. A splendid feat, performed under difficult conditions, surrounded as they were by colossal tabular icebergs and drifting ice-blocks, in entirely unexplored waters.

Then they returned north ; their supply of coal was running short, and both staff and crew were in a low state of health. In a stiff westerly gale they set sail for Tierra del Fuego. Fog and a heavy sea running made things difficult on approaching the Straits of Magellan. It took them only

ten days to reach Tuesday Bay from the pack-ice. The Expedition was at an end, and they were all alive at least.

Punta Arenas, Buenos Aires, Montevideo, Rio and Pernambuco marked the triumphal stages of their return journey, Charcot sent a telegram to the Académie des Sciences from the first port they reached : 'Had hoped to do more ; have done the best possible.' He wrote to his sister from Buenos Aires : 'I can't bring myself to talk any more about the expedition. What with interviews, the necessity of talking about it to friends, and to people who are uninterested but feel that they ought to be interested, the whole thing has become an obsession and a bore !'

The *Pourquoi Pas ?* crossed the Atlantic on the traditional sailing route in two months, putting in at Punta Delgada in the Azores. In the early days of June, before his official arrival at Le Havre, Charcot stopped at Saint Pierre in Guernsey, where his wife and daughters were awaiting him. On June 4th the captain took his last watch. The *Pourquoi Pas ?* sailed up the Seine and into the heart of France, as the Viking ships had done in days gone by. Charcot saw the familiar scenery with intense pleasure : 'The ideal countryside, the most lovely in the world, which stirs one's heart not with anguished apprehension but with a sigh of pure happiness at the sight of perfection.' All the houses and villages on the banks of the Seine were decked with flags in honour of the Polar ship.

In an out-of-the-way peaceful village the families of those on board were reunited with those they had awaited so long. No one else was there to mar those heart-felt greetings. And then they sailed on once more, escorted by two torpedo-boats, to Rouen. The tremendous crowd pressed forward to see the *Pourquoi Pas ?* and Madame Charcot found it

difficult to make her way across the quay. A sailor stopped her :

“No further, madam !”

“But I’m Captain Charcot’s wife !”

“That’s a good one ! You’re not the first to try that on this morning !”

And now at last the *Pourquoi Pas ?* was at rest in the little Rouen Yacht Club harbour.

Achievement

'JUST to think that people are writing to me and saying how glad I must be to rest. . . . I have just finished my four hundred and twenty-eighth letter of thanks !'

So wrote Charcot from his charming villa, 'Les Deux Rives,' at Bougival, where he had retired on his return. The book giving an account of the second expedition had to be ready by August 15th. A typist snatched each chapter as fast as it was finished and Madame Charcot corrected the proofs. Two hundred and fifty photographs had been chosen from among the three thousand taken.

Whilst the expedition was in the south Captain Scott, who was serving on board H.M.S. *Bulwark* in the Channel Fleet, had been kindness itself to Jeanne Charcot. On October 14th, 1908, he wrote : 'Your brother has such a thorough knowledge of his work and such a cool head in difficulties that there can only be a triumphant return with great results. This is my very serious opinion, and not flattery invented to comfort you.' He had not given up the idea of setting off himself once again, and had written : 'I am engaged to be married to a Miss Kathleen Bruce. It does not stop my plans for my work in the South, which is as well for I tire of this life of regularity.'

Charcot took great pride in Scott's esteem for him, and in a letter to the famous French naval historian, Paul Chack, he told the story of how Scott had nicknamed him the 'Polar gentleman.'

'While wintering the English were jesting goodnaturedly about the leaders of the Belgian, Norwegian, Swedish, German and Scottish expeditions . . . when they came to the French expedition Scott popped his head out of his cabin and shouted : "Let Charcot alone, he is a gentleman !" Since then, it appears that I have been known to British Polar explorers by the nickname of the "Polar gentleman." Coming from a man like Scott, it is the highest compliment I have ever received, and I am very proud of it.'

Scott was not the only Englishman to have a high opinion of the work and character of the French Polar explorer, as was abundantly proved by a reception given in Charcot's honour by the Royal Geographical Society in March 1911, when he received the Patron's Gold Medal. His mind went back to the welcome given his father by the Royal Medical Society : now it was he himself who was surrounded by British celebrities.

Sir Ernest Shackleton considered Charcot's expedition one of the hardest possible, for, in his opinion, the difficulties met with in the region chosen by the captain of the *Pourquoi Pas ?* were far greater than those farther south, where the weather was more settled. Doctor Mill congratulated him on his great voyage westwards from Charcot Land, and for having 'connected together all the earlier, isolated discoveries,' thus showing that they were of more importance than the discoverers themselves had supposed. Admiral Sir Lewis Beaumont, the explorer of the North, stressed the difficulty of sailing with a prevailing north-easterly wind, 'which must keep piling the ice on the coast . . . It is simply wonderful that they should have come back at all, when you think that the bottom of the ship was actually reduced in one place to half an inch of wood between the sea and themselves. . . .

Charcot has brought his ship back safe and sound.' No higher praise could be given.

The English were grateful to him, too, for not having tried to fight them on their own ground, for having kept off Scott's and Shackleton's territory and avoided competition ! In his reply Charcot laid aside his French formality. 'I thank you . . . with all my heart for having said all those nice things about me now, when I have come back, and not before I left, for certainly the *Pourquoi Pas ?* would not have been big enough to hold me.'

Charcot, in the eyes of the English, had behaved like a gentleman. If he had corrected and contradicted the Admiralty maps on certain points (the non-existence of Middle Island, for instance) he had exercised great tact with regard to his predecessors : he attributed the fact that he had got farther south than they had to the condition of the ice. He had been unable to confirm the existence of the island named Pitt Island by Biscoë, but in order not to erase an English name from the map, had given that name to another 'large capped island nearly corresponding to Biscoë's in its latitude and longitude.'

Charcot always felt great admiration for the achievements of the English, though sometimes envying them the means placed so willingly at their disposal by the public. His fellow-feeling extended, too, to people of all nationalities. In a few splendid words he summed up the lesson taught him by those hostile inhuman lands : 'Beyond the Polar Circle there are no Frenchmen, no Germans, no English, no Danes : there are only people of the Pole, real men.'

When he came to set down the results of the expedition, of which he had sometimes despaired, they no longer seemed so negligible. But it was perhaps an impressive session at the

Sorbonne, with an eulogistic speech by M. Henri Poincaré, which really convinced him of the value of their work.

There is always a tendency to think that those who act only do so because they take pride in their action ; that certainly was not true of Charcot. All those who knew him intimately realised how sincerely he under-rated the importance of his work, most especially in the latter part of his life, and how he would always give the credit to his collaborators or to favourable conditions, only admitting his own good intentions and initiative.

Edwin Swift Balch, of Philadelphia, an authority on Polar history, summed up on Charcot's work : 'Charcot's expeditions occupy a place in the front rank of the most important Antarctic expeditions. No one has surpassed him and few have equalled him as a leader and as a scientific observer. He is absolutely impartial, precise and accurate. All future efforts apart, the boundaries of science and of our knowledge have been extended by the splendid efforts of the Frenchmen who, with Charcot at their head, have explored the Antarctic.'

Roughly the results of the expedition can be summarised thus : A survey of 1,250 miles of coasts and new lands had been made by Bongrain, Rouch and Godfroy, numerous maps and plans drawn, and indications given for navigation and anchorages, such as—Avoid Pendulum Cove, with its falling cliffs, but make for Admiralty Bay, South Bay or Livingstone Island, where landing is not always possible, Port Lockroy (which Charcot had discovered), Petermann Island, not always approachable, or Wandel Island, a suitable site for a permanent observatory. Their conclusions were that navigation south of Petermann Island was impracticable ; that a 1,600-foot granite wall and imposing glaciers formed the stern coast of Adelaide Island ; that a ship making

CONGRATULATIONS

Adelaide Island and Marguerite Bay would run the risk of being cut off and being unable to return for several years ; that Loubet Land and Fallières Land, though less high than more northern territory, and with more practicable glaciers, were surrounded by waters in which a ship surprised by a storm would be in a desperate plight ; and that the state of the ice varied every year : Larsen in 1903 had not been able to cross the Antarctic Straits, but in 1908 the whalers had been able not only to cross the straits, but to reach Hope Bay.

Charcot himself had concentrated on bacteriology, and had brought back a large number of cultures which he handed over to the Pasteur Institute.

Louis Gain noted the following scientific achievements : a 225-day study of tides on a Favé tide-gauge had been made ; a first-class observatory had been installed on board during the summer campaigns, which allowed of observations over a period of thirty-six days off Deception Island, and others in the southern Pacific, and in particular for a study of the frequent gales in those regions ; the amount of the potential gradient of the atmosphere was registered over a period of about ten months, and these observations were supplemented by measurements of the electric conductivity of the atmosphere, showing that, in the mean, the conductivity is the exact inverse of the potential gradient ; about a hundred soundings had been taken, and two hundred samples of seawater secured in conjunction with temperature measurements, the soundings had revealed a continental plateau with considerable undulations ; from the point of view of magnetic observations, absolute determination of the three elements of the magnetic field were carried out at six stations ; during the winter the variations of the elements were registered by photography with Mascart magnetometers ; eleven series of

observations on solar radiation were made with a Michelson's bimetallic-plate actinometer ; observations made at different points of the zones had shown that the atmosphere of those regions was much more transparent than that of the temperate regions.

Gourdon had studied diorite and granite formations in the South Shetlands and the glaciers in Graham Land. Gain and Liouville had made important zoological and botanical collections. They brought back the first sea-leopard to be seen in France, and bird embryos developed in an artificial incubator. Part of the collection went to the splendid Oceanographical Museum in Monaco ; one of the most remarkable exhibits there is a model of a penguin rookery.

Charcot, who was far from well, was not considering a third expedition. He handed on the torch, advising his successors to continue work in a westerly direction. He was anxious to settle the future of the *Pourquoi Pas ?*, which he could not afford to keep on at his own expense. He obtained permission for her to be used as a maritime research laboratory for the École Pratique des Hautes Études. He was given the command of the ship and nominated as director of the new organisation. He made a short cruise in the Channel in his beloved ship in the summer of 1911, after she had been repaired at the Cherbourg arsenal, and was able to prove her satisfactory in every way. But the administrative situation of the *Pourquoi Pas ?* was unsatisfactory : the income set aside was sufficient for a ship while laid up, but every year money had to be found for fitting her out. The innumerable articles written and lectures given by Charcot provided only a drop in the ocean. He succeeded in interesting the Service Scientifique des Pêches, the Ministry of Agriculture and the Fécamp Chamber of Commerce and, finally, the

Mercantile Marine, on the condition that he carried fifteen apprentices on three cruises. The *Pourquoi Pas ?* had become a finishing school !

Official circles stated that ‘to organise the *Pourquoi Pas ?* as a training-ship was anti-democratic, for there were too many candidates for them all to be taken, and those who were accepted would derive so much benefit that they would have an unfair advantage. . . .’ Therefore, according to this democratic ideal, far better to deprive everyone of the advantage ! In spite of this criticism the apprentices who trained on the *Pourquoi Pas ?* passed their examinations brilliantly. Charcot repeatedly defended the idea of a training-ship, saying that ‘it was as unthinkable to limit the training of marine apprentices to courses ashore as it would be to cut out practical hospital work in the teaching of surgeons.’ After the war the creation of the Jacques-Cartier training-ship filled the need, a result due, to a certain extent, to Charcot.

Meanwhile, undaunted by the extra work and responsibility entailed, he put the scientific arsenal, the library, the highly specialised staff and the first-class instruments of the *Pourquoi Pas ?* at the disposal of the mercantile marine apprentices. And one cruise he did not hesitate to take them as far as Jan Mayen, to the ice beyond the fjords of the Faroes, to whaling stations and Iceland cod-fisheries, to complete their instruction. For Charcot, to do his duty always meant to do far more than his mere duty. His wife accompanied him on that journey, a long-cherished dream at last realised. Young women of 1938, loving sport and accustomed to hard physical exercise, to camping and to climbing, will only think how lucky she was. But wives in 1912, well-corseted and long-skirted, smothered in furs for a motor-ride at fifteen miles an hour—something of an event in their lives—sighed

and shook their heads, and spoke of Madame Charcot's bravery ! She went as 'painter to the expedition,' as she had not wanted to go as an ordinary passenger. Always gay and perfectly natural and at home in her Eskimo anorak, she went off at every port of call with her easel and brushes. Some of the panels she had done for the mess-room walls of the *Pourquoi Pas ?* had already reminded Arctic explorers of lovely spots in their home country. Her position was not a sinecure : 'At dawn,' a passenger wrote, 'the *Pourquoi Pas ?* was sailing along the coast of Jan Mayen when suddenly, wishing no doubt to greet his friend, the king of the Island (Mount Beerenberg) doffed his crown of clouds. Since the time when Saint Brandan had sailed there in a skin boat, no such phenomena had been seen. "Get up, bring up your paint-box quick : Beerenberg is showing !" shouted Charcot to his wife, who was asleep below. Bundled in her blankets Madame Charcot gazed at the miracle, and gradually reproduced it on her canvas.'

Such cruises, combined with oceanographical observances, occupied the following year, until August 1914 found him at Saint Malo. Charcot hastily took the *Pourquoi Pas ?* to Cherbourg and had her laid up there, after which, in his naval doctor's uniform with its three stripes, he mobilised for work in the Cherbourg hospitals.

Camouflaged Explorer

WOUNDED men arrived at the Bucaille Hospital by sea from the battlefields, and it was there that Charcot spent his days. His family, including a little daughter Martine, born in November 1911, had joined him at Cherbourg as their villa at Bougival had been requisitioned.

Madame Charcot insisted on doing something—anything—she would even wash dishes at the ambulance stations, she said. She was entrusted with the hospital's mending, and worked for her Red Cross examinations, so that she could become a nurse. Her husband set off every day with his sandwich-lunch, like a schoolboy; he had to eat up in the attic as the hospital was full to overflowing. He must have thought of his father who had faced far worse ordeals when the Salpêtrière was bombarded in the siege of 1871.

There were many German wounded. A notice hung over one bed: 'Be kind to this German, he spared many Englishmen!' It was found later that the prisoner had concocted the notice himself.

'I am fed up with the job I am doing,' wrote Charcot. Life was too peaceful there, far from the front lines. Gourdon was in the trenches; instead of serving as a doctor he had enlisted as a private, and won his officer's stripes at the front. Pléneau, at the age of forty-seven, had left a splendid post in Russia to enlist as an observer in the Guynemer air squadron. Matha was second-in-command on the *Dupleix*.

Charcot's sister Jeanne, now the wife of Captain A. G. Hendry, was considering the idea of running a hospital-yacht for the transport of wounded.

Jean Charcot asked in vain to be sent to the front. A post was vacant in February 1915, but it was given to someone else. An idea he had had in the autumn of 1914 was steadily developing. On October 25th he wrote from Cherbourg to Guillaume Grandidier, who was attached to General Gallieni's civil staff, begging him to put his case before the military governor of Paris. 'I am much more of a sailor than a doctor, and more suited to an adventurous than a stay-at-home life. Although I am forty-seven years old and no longer have the great physical strength of my youth, I am still robust, and I like a hard life. . . . I speak English as well as I do French, and I think I write it even better.

'Now for what I want. I want anything that needs enthusiasm, the will to conquer, resistance and a good temper, I want to do my best for my country at my own personal risk. I know I have not many virtues, but if I am given something to do I see it through to the bitter end.

'I don't mind if it's on land or sea, anything would do. If only we were living a century or two ago, what a fine corsair ship I could have made of the *Pourquoi Pas ?*, and there are still moments even now when I wonder whether my old-fashioned little boat couldn't send some of the Boche cruisers infesting the seas to the bottom !'

On February 26th, when writing to his sister Jeanne asking her to get supplies for his nurses from the London Red Cross, he made the mysterious announcement that there was going to be a change in his life. What had happened was that he had been sent for by the Ministry of Marine and asked to give certain information about England, whose west coast

he knew better than most people, and about the possible use of the Faroes as a base against German submarines. (He had made a report on the Faroes for the Ministry in 1900.) His idea took shape. His position as a doctor could be filled just as competently by someone else, as for him, he would become a fighting officer in the Navy. The captains of merchant vessels were given the rank of auxiliary lieutenants, and had he not the record of a merchant captain? He looked at things from the common-sense point of view—the right man in the right place—but he had reckoned without official red tape. To be qualified as a merchant captain eighteen months' navigation were required, moreover, 'pleasure' cruises could not be taken into account. A 'pleasure' to captain the *Pourquoi Pas?* in the Antarctic? Charcot shrugged his shoulders. He would get round the idiotic regulations somehow. He went off to see the Under-Secretary of the Mercantile Marine. A fictitious committee met fictitiously and set a fictitious examination: at six o'clock that same evening Charcot presented the Ministry with his captain's certificate which would enable him to serve as an auxiliary lieutenant. The gentlemen of the Navy never really forgave him for it, but the merchant captains were proud that he was one of them, and offered him a medal to commemorate the occasion. Exceptional people must take exceptional measures.

April found Charcot still at Cherbourg, fretting with impatience, and reduced to the rank of honorary doctor, as officially he was no longer a naval doctor. He had refused his fourth doctor's stripe.

The Comte de Saint-Seine, formerly naval attaché in London, once said that Charcot had planned to run a ship for chasing submarines, and that he had asked the Ministry of Marine for an armed trawler. 'The Ministry replied that

there was a shortage of trawlers, and no money to equip them with arms ; however, Admiral le Bris, chief of general staff, had advised Charcot to go to London and see if it would not be possible to obtain something from the Admiralty.'

The idea was already under consideration, and following a conversation between the French naval attaché, Comte de Saint-Seine, and the English chief of staffs, the Admiralty had ordered a fleet of a hundred trawlers for chasing submarines ; several had been launched and were soon to be ready, and already four old trawlers were being fitted out at Devonport arsenal. On March 4th Charcot went to England, after Jeanne had intervened on his behalf, and many letters had passed. The Admiralty had offered to interview him—in Paris : 'To save him a tiring and dangerous journey.' It seemed a comical suggestion !

The French naval attaché promised to try to get him the command of one of the new Q-boats, and introduced him that same day to Admiral Lord Fisher, First Lord of the Admiralty, who invited him to dinner. Captain Hall, head of the Naval Intelligence, said, "You Frenchmen have always been good as corsairs. We'll make a corsair out of Dr. Charcot !" The question of giving the command of a British ship to a Frenchman did not worry the Admiralty. He could be entrusted with a 'special mission,' that would arrange things satisfactorily. They handsomely told Charcot that he could choose whatever name he liked for the ship, and he named her the *Meg*, in honour of his wife.

Back at Cherbourg once again he wrote to Jeanne : 'I have already got together a splendid nucleus of a crew, all very enthusiastic, with whom I am sure I shall do some good work ; volunteers are pouring in and their confidence is unbounded. But unless something happens soon all these

men will be scattered right and left, as we have no official standing. There is so much to do ! and I am so sure that I am going to do it well !' Among the volunteers were several old stagers from the *Pourquoi Pas ?* whom Charcot had looked up, and who would follow their captain through thick and thin.

He waited for a month for news from London, and in spite of his impatience became more wildly enthusiastic than ever. 'I am cut out for this sort of work. If I did nothing active or a bit dangerous in this war, I should be ashamed of myself and go and live abroad.' The writing of his handbook *Protection against Cold for the Soldier*, immediately distributed to the army, was not nearly enough to keep him occupied.

Meanwhile, Ramsgate, where his brother-in-law Captain Hendry was headmaster of a big school, suffered terribly at the hands of the German submarines. The school was requisitioned and Hendry and his wife put their lives and fortunes at the disposal of the Rescue Society for bombarded villages in France, driving their own cars, laden with clothing and provisions, to the smouldering ruins in the front lines.

On May 12th Charcot learnt that he had been awarded a gold medal by the Imperial Geographical Society of St. Petersburg, and that, apart from Sir John Murray, he was the only foreigner to possess it ; at that time it meant nothing to him. At the time when the Government made its first appeal for gold, all Charcot's medals went into the melting-pot.

The corsair had triumphed over the explorer—for a corsair he was to be. On June 29th he wrote : 'I have got a band of fine young fellows, very determined and very enthusiastic.' He thought of choosing Stornoway in the Hebrides as a base

for operations. On July 13th his ship was to arrive at Cherbourg, ready for him to take command, then he was to make Portsmouth. Fleuriais, a French lieutenant, had been made second-in-command by the Ministry of Marine. Charcot was to be considered as having a 'special mission'; the confidence shown in him by the British Admiralty had won over the French administration. His crew was half French and half English (the English being two seamen gunners, a wireless operator and a signalman). Bretons and Celts, enemies of such long standing, were united in the face of a common enemy.

The ship was a new type of auxiliary cruiser, able to turn in very limited space, with sharp bows, new submarine detectors and special armaments and a capacity for some speed. She was a kind of whaler, built at Smith's Docks on the Tees. She sailed from Cherbourg at midday on July 30th. On her bridge stood her captain, a grey-bearded man, wearing an ordinary skipper's clothing—he had to deny himself the pleasure of putting on his cap with its three gold stripes, for they were meant to give the impression of being an ordinary trawler.

The *Meg* made for the Hebrides; the Admiralty had given up the scheme to patrol the Faroes and had put the *Meg* under Rear-Admiral Tupper's orders. Her base was at Stornoway, and there Charcot's family moved, and settled in a small red-brick cottage. Admiral Tupper wrote: 'I inspected the *Meg*, and went to sea in her to watch her at work; she was well run. Charcot handled her cleverly in difficult waters. He was horrified at the suggestion of christening her the "Why Not?"; his indignation at the very idea was most amusing. I found him an extremely nice fellow.' His job was to patrol west of the Hebrides,

to take action against submarines if he had the chance, and to discover any enemy bases there might be in the district.

Charcot and his valiant crew tramped through the swell and the mist, along the rocky coasts all the autumn and part of the winter. Now and then they would put in at Ullapool or some other Scottish port. The rain lashed the granite houses, fog shrouded the sodden, barren fields, and the wind howled furiously. Not very entertaining ports for sea-weary men !

Rumour dogged Charcot wherever he went. A story went the round of English naval circles that when Admiral Tupper suggested Charcot should take a pilot on board for sailing in those little-known waters, Charcot had replied that he had a very thorough knowledge of the West Coast of Scotland, as he had made a study of it for the French Navy in 1900. In other words that he had been spying ! When the story reached Charcot's ears, and was told to his English friends, they were speechless with laughter.

Thus Charcot was numbered among the heroes of the Q-boats, whose exploits Keble Chatterton has recounted in *My Mystery Ships*. This volunteer of forty-eight willingly suffered an unbroken stretch of unpleasant conditions—an exceptionally dangerous coast, every nerve strained in the hope of sighting a submarine, and the possibility at any moment of hitting a rock or mine. He returned to Paris in January 1916, and fell seriously ill with double pneumonia. The Admiralty gave him the D.S.O. in recognition of his services.

He had to admit that the *Meg* was not very satisfactory in her rôle as corsair-ship, and so decided to take up the project again in France with a new *Meg*.

As soon as he was about again Charcot began to plan

fresh activities. The Ministry of Marine asked him to obtain permission from the Muséum for the loan of the *Pourquoi Pas ?*, so that she could be run as a training-ship for the Naval School at Lorient. He was as willing to give up his ship as he had been to offer his life, and personally superintended her fitting out at the Cherbourg arsenal. In addition he was working on a scheme for Q-boats for the French Navy. Whilst he was still convalescent he submitted plans for a ship for service against submarines to Admiral Lacaze. On board the *Meg* he had acquired definite ideas on improvements that could be made ; for example, greater speed and more of the cargo-boat look. If Charcot was not responsible for the original idea of Q-boats, it cannot be denied, from a study of official documents, that he put the idea of these ships into practical form and decided the French Ministry to order their construction.

He proposed a 90-foot cargo boat, the most ordinary of ships in the English, French and Norwegian merchant services : an essential condition if the attention of the enemy was not to be attracted.

His report included precise details about the armaments he considered necessary. He preferred a cargo-type of boat to a trawler, considering that the enemy would be less suspicious and would think the cargo boat an easier prey. The aim of the Q-boats was to bring the enemy to close quarters, as they seemingly had no means of defence, and offered a perfect opportunity for wholesale slaughter. "If we had been caught we should have been hung at once as privateers," he said once. Such was the dangerous task chosen, created even, by the man who wrote 'I like a hard life.'

The Ministry approved his report, and three boats were put on the stocks in November 1916. They were to be the

Michel et Rene, the *Jeanne et Genevieve* and the *Meg*. Charcot was approaching his fiftieth birthday when the time came for him to take command. Directly building was begun he settled at Nantes the better to survey the work. He selected the engines himself from the available stock. The *Meg* was finished in six months and ten days. Once again the old hands from the *Pourquoi Pas ?* embarked with their captain, all disguised as merchant sailors hard at work, in worn jackets, baggy trousers, flat caps with twisted brims, and a down-at-heel air, so as to avoid all suspicion.

Up to the end of the war Charcot and his companions dodged mines, torpedoes and squalls as they had dodged icebergs and treacherous rocks ; for two years they only put into port for provisions, coal and to get information.

The *Meg* bore an unmistakable likeness to all Saint Malo cargo boats. So, as Charcot put it, she had 'to know the habits of her sisters, run on the same routes, act as they would, adopt their colouring and aspect without omitting a single detail, know their speed, their refuges in bad weather, and all their ways, not only in ordinary navigation, but also the means they used in trying to escape from a submarine attack.' In fact, she had to be a twin-ship. They had to find out all these details by making the acquaintance of pilots and crews of the ships they were to impersonate, and making thorough enquiries in their ports of call. Charcot and his companions went from offices to cafés, tirelessly and unostentatiously ; sitting over a bowl of cider they would carelessly change the subject if they noticed an unfamiliar face.

Charcot had already some experience of work as a corsair, having performed it under still more difficult conditions off Scotland. Voyage by voyage he copied the camouflage of the merchant ships, which were themselves camouflaged, and

attempted to follow their routes—not the theoretical routes prescribed by authority, but the ones taken by these ever-independent ships because they were shorter. He knew, for instance, that to go to the Lizard from Saint Malo, they passed to the west of the Hanois and Casquets to avoid the heavy sea off Blanchard. The *Meg* became a real quick-change artist. A few moments after leaving the open sea on approaching a port or a signal-station, she would resume her appearance of a patrol-ship, or cargo-boat chartered by the State, this being the aspect by which she was known in the ports. ‘Crow’s nest, wooden cannon fore and aft, and the correct funnel marking are put in position. The real guns were hidden in case anyone came on board ; the 47 mm. in the dinghy in its usual place, the four 75 mm.’s shut up in packing-cases covered with old canvas and straw.’ When a more thorough disguise was needed it would be made in a lonely creek at night, or in the open sea in fine weather. The crew could re-paint the whole ship in an hour and a half ; even officers who knew her well were taken in by her transformations. Sometimes she would sail alone, sometimes with a convoy. The night was spent at anchor, but with ears ever alert for an S O S. The members of the crew themselves were not given full details of their route in case of indiscretions. The men were trained to meet any eventuality of war. Most of them were too old for military service, and had only signed on in order to be with their captain, so with his customary friendliness Charcot had no difficulty in keeping up excellent morale. Gaiety and enthusiasm reigned. The crew had even given up the ‘binges’ which they associated with every port of call.

Charcot continually thought of new improvements : cannon of 100 mm. instead of “75,” abolition of Giraud grenades, worn

canvas for camouflaging and more frequent shooting practice.

He passed his days tramping ceaselessly up and down the coasts of the Channel and Brittany. The *Pourquoi Pas ?*, on her side, was plying her laborious trade. She had on board 'thirty gay young fellows,' wrote Maurice Gerny (whose pseudonym hides a very distinguished naval officer), 'learning to steer, to keep watch up in the lubber's hole, to take bearings and to go the rounds.' Her bridge was exposed to all winds, and she rolled heavily. 'When you dived at the map-box to find your position you had to do acrobatics to steady the waltzing of the protractor.' Such was the judgment of one of the young fellows; but they felt, too, the glory of the ship. 'From one end of her career to the other the *Pourquoi Pas ?* was marked by her seeming desire to be seaworthy, to plunge into the waves, to battle with bad weather. Charcot had filled her with his sailor's enthusiasm. She only came alive when she was heading for the open sea.'

One day she was out at sea near the Raz de Sein when another ship came into sight, about two miles away. She was the *Meg*. 'As soon as Charcot recognised his beloved *Pourquoi Pas ?* he steered towards us, and circled round twice, wishing us good luck. Charcot really looked a fine figure on his bridge.' And Maurice Gerny goes on to say: 'It was the heroic epoch when a ship put out to sea to make war with a miserable popgun of a "75".' The heroic epoch, when the invisible enemy sunk liners and cargo boats alike, allied or neutral, when the martyred voices of the *Lusitania* whispered in the west wind; each minute might bring death, and one had, too, to fight the raging elements.

And grey-bearded Charcot, his hands clenched in his pockets, could sometimes be heard muttering: 'Come on,

you brute, come on, damn you, and show yourself !' But the submarines kept clear of him, leaving him only the glory of danger, until one day the day of battle came.

Auxiliary lieutenant Jean Charcot received the following official tribute on December 14th, 1918.

'JEAN CHARCOT since the beginning of hostilities has set a high example of loyalty, commanding two patrol ships, the first in the North of Scotland, the second in the Channel and the Atlantic. In an encounter between the special ship he commanded and a submarine he displayed calm courage, and the decision and vigour of a great leader.'

Rockall and La Galite

THE armistice brought Charcot back to Cherbourg, first as an adjutant in the 'Normandy Patrol' division, and then as adjutant in the 'Normandy Flotilla,' to which he was attached until May 1919, with 2,000 reservists under his command. On May 16th of the same year he was given the rank of sub-lieutenant on the Reserve List, to his great joy. As he grew older and had more achievements to his name, he lost in rank—the reverse of the usual procedure. However, it affected him but little; he was now definitely in the Navy for good. The Ministry was to give him rapid promotion: it was up to him to respect their formalities. Five days after his appointment as sub-lieutenant on the Reserve List, he became a lieutenant on Reserve, and a year later *capitaine de corvette* (lieutenant commander) on Reserve. On November 9th, 1923, he was made *capitaine de frégate* (commander) on Reserve.

Each year he was recalled to service and commanded the *Pourquoi Pas ?* for three months. He acted as a link between the Navy and scientific circles. At the end of the war his ship was handed over to the Ministry of Education, and was thoroughly overhauled by them at the Cherbourg arsenal. Both captain and ship had bravely endured the dangers and hardships of war, even as they had steered clear of the difficulties of the Antarctic. Both were now to resume their scientific labours. They went to sea the following year, and for sixteen years man and ship never failed to meet regularly every

summer. But they were never to see the Antarctic again ; they had done what they could, now it was for younger men to carry on the work.

The crew of the *Pourquoi Pas ?* consisted of regular sailors ; scholars and specialists in every branch of scientific knowledge were to sail in her. Every summer the ship was equipped at Saint Malo for three months, usually for the period of June 15th to September 15th. The people of Saint Malo looked on her as their own ship, for she had been built, launched and christened on the river Rance. They were proud of possessing the only French ship to have crossed the Polar Circle and wintered in the ice. All the foreign tourists were eager to see the famous ship, now a little old-fashioned, but still stalwart. She was to Saint Malo rather what the *Victory* is to Portsmouth.

Charcot loved that part of France more than any other. The fighter and the mystic in him found their home in Brittany. He had bought an estate at Saint Servan some time before the war, and there, on his return from his cruises, he would retire and write the reports he found so tedious, staying on until December. The estate was situated in one of the most lovely places on the coasts of France ; a fir-clad headland jutted out into the river, from one side there was a view over to Saint Malo and the sea, from the other of the Rance.

In 1920, at the request of the Office des Pêches, the *Pourquoi Pas ?* made a short cruise in the Bay of Biscay and the English Channel. In 1921 Charcot had the opportunity of satisfying a long-felt desire. On his way from the north to the west of Ireland he had many times passed quite near a strange, solitary rock, looking something like a haystack ; an islet lashed by the wind and the waves, two hundred and eighty

miles from the nearest land, and lying in the path of cyclones. It seemed to be jealously watching the ships, ready to destroy them if they were bold enough to venture to approach. A whole history of shipwrecks centred round its accursed name. Only seventeen years ago a Danish liner, the *Norge*, carrying 800 passengers, was dashed to pieces on Rockall. So tiny is it in the vast ocean, whose towering waves often hide it from sight, that it had been mistaken sometimes for a derelict ship, tossed by the swell. ‘*Men Caor !*’ (rock of the devil) the Breton sailors muttered when they saw it on the horizon.

Jean Charcot, whose interest extended even to the most desolate places of the earth, gives a striking description of the sinister island : ‘This double-pointed helmet, 65 feet high, was probably the summit of a mountain several thousand feet high. Its dazzling crown of eternal snow has been replaced by a covering of guano.’

As an artist and a scientist his imagination would soar far beyond the ordinary person’s limited vision. There where a plain man would see only a dangerous rock he perceived the majesty of a mighty underwater mountain, its valleys and mysterious peaks, of which only one was visible to mortal eyes. He was fascinated by this rock, carpeted in seaweed, without a single blade of grass, which was no longer more than a resting-place for birds. They sheltered in their thousands in the vast hollows made by the winds and the seas, and a cloud of guillemots, gulls and puffins gave life to the dead rock. So Charcot thought as he contemplated it from the bridge of his ship. He would not have risked the lives of his companions in those dangerous waters if he had not been charged with elucidating a scientific problem.

The crew of an English cruiser, the *Endymion*, had brought back specimens of a special rock from the island, a rock con-

taining neither limestone nor potassium, but comparable to the 'fasibilikite' of Madagascar. The problem put to Charcot was whether 'rockallite' also contained encolite. Charcot, glad to have this opportunity, decided to attempt a landing, only feasible a few chance days every year.

On June 29th, ten days after their departure from Saint Malo, the *Pourquoi Pas ?* stopped to the leeward of the dreaded 'pointed helmet.' On board were Lieutenant Tournemire, Professor Mangin, director of the Muséum, Hamel, a naturalist, and a painter, Pierre le Conte. The sea was exceptionally calm, but was breaking heavily on the reefs. Tournemire, with seamen Moussard and Le François (a Navy cook, and in private life a circus clown), manned the old Antarctic whaler and after a good deal of difficulty succeeded in hoisting themselves up into the nooks and crannies amidst the outraged birds. Charcot stood by in a small boat to give them a hand, and by means of a cable passed them tools with which they were able to get a few samples of the rock. Their mission was accomplished, and, on examination, it was proved that the famous 'rockallite' was but the most easily detachable mineral element, and that the island as a whole was composed of a much more commonplace rock—granite. As Charcot picturesquely put it: 'Rockallite is the beauty-spot on Rockall's face !'

Two days later, in spite of a rougher sea, Charcot decided to attempt a second landing. This time the landing-party consisted of le Conte and the top-man Bonnichon. Whilst they were in those waters le Conte had made several excellent rough sketches of the strange rock. Taking advantage of the good weather they were able to continue to take soundings, to dredge and trawl around this dangerous and inaccessible spot till July 4th. By means of a tow-net of the Bale and

EXPERIMENTS

Forbes type, modified by protecting the net with sheet-iron, Charcot had several times been able, by handling the net in a certain way, to raise large fragments of rock weighing several hundreds of pounds from the bed of the ocean. These experiments, with the help of Hamel and Dangeard, were carried out in more than a hundred places.

M. Lemoine, of the Académie des Sciences, considered that this work 'opened up a new field for that great science, submarine geology' and that, moreover, 'as agronomy is closely linked with geological knowledge so in the same way knowledge of sea growths would be dependent on submarine geological science.'

Some time later a foreign scientist, after listening to one of Charcot's lectures, persisted in expressing excessive astonishment at the results obtained. Charcot spent a long time in vain trying to explain the method used. It was not a very complicated procedure. The rope of the tow-net had to be jerked, but at the right moment and over the right spot. The conversation went on and on. Finally Charcot ended it abruptly: 'Yes, with a rope, Herr Professor, but you must not overlook the fact that there was a French ship at the other end of the rope!'

In 1923¹ Charcot made his one and only cruise in the Mediterranean, at the request of the International Conference. This was an altogether exceptional event in his life as a scientific explorer; he always preferred the mystery of the north to the clear brilliance of the south. The object of the voyage

¹ While he was in the Mediterranean, Charcot's first map of French fishing-grounds in the North Sea was published. Later, as a result of the work of the *Pourquoi Pas?*, including the 1924 and '25 cruises in the Atlantic and English Channel, another map of the fishing-grounds was published; a geological map in 1928, and a lithological map of the French coasts appeared in 1935.

was a study of tunny-fishing. He made geological studies of the islands of Linosa, Pontellaria, Lampedusa, Habidos, Rachgoun and Alboran, and of the dangerous plateaux of the Esquerquis and the Sorclles. During this cruise they visited the island of La Galite, off the coast of Tunisia. There were only one hundred and fifty inhabitants, of Italian origin, under the charge of an official who was usually a Breton, on this mountainous little island, surrounded to the east and west by many other islets. There was a church, but no *curé* apart from the one at La Pêcherie, the military port of Bizerte, and he could only visit this part of his parish in fine weather. The inhabitants had special regulations for their marriage ceremonies.

When two young people got engaged, and had obtained their parents' consent, 'they wrote asking M. le Curé to come ; the letter was put in the beautiful blue letter-box, and then they waited for one month. Then, if the letter had not reached the *curé*, or if he had not been able to cross to the island, a private ceremony was held before a witness and the two assembled families a few hours after the month was up. When the priest does come he blesses all the unions established during his absence . . . and perhaps even a few baptisms resulting from them !'

The *Pourquoi Pas ?* was able to bring happiness to several young couples by transporting the *curé* to La Galite. The bishop was on board, too, and a patriarchal procession worthy of early Christian times took place through the cactus and aloes on the island. For the first and last time the Polar ship anchored in Riviera ports. She was not out of place under the ramparts of Antibes, that corsairs' haven, baked by the scorching sun.

First Voyage to Greenland

It is unnecessary and would be tedious to give the itineraries of Charcot's cruises one by one in the Atlantic and the English Channel year after year. He visited Iceland and the Faroes almost every summer.

A great change had come over the Northern island since the beginning of the century. Owing to the telephone they were no longer isolated ; electricity everywhere replaced the smoky little oil-lamps ; there were lighthouses, and liners called several times a month ; there was even a meteorological observatory at Thorsavn. That modern horror, corrugated iron, gradually usurped the turf roofs shining with buttercups, where the hens loved to pick, on the little painted houses.

Charcot landed several times at Jan Mayen Island, which he had first visited in 1902. He felt a warm affection for the island whose renown had reached even as far as Brittany in the Middle Ages ; it seemed to him to have a mysterious connection with his beloved Saint Malo. He loved to quote from Saint Brandan's chronicle ; St. Brandan, too, had been attracted (and also horrified) by this island, which he had thought the 'Gate of Hell.' To Charcot, Jan Mayen brought back memories of his youth, of how proud he had been to get there in the *Rose-Marine* in spite of all gloomy prophecies. He would laugh with his old friend Cholet over their early adventures : 'Do you remember, Cholet, when that wave knocked you into the crater of Egg Island ?'

Charcot described Jan Mayen as being like 'the sole of a shoe ; the high heel is the volcano 8,300 feet high, covered in ice and snow, surrounded by other smaller volcanoes ; the actual sole of the shoe is rough with innumerable craters, looking as though this part of the island had been fired at by tremendous guns ; the highest is of 2,500 feet. The two blocks are joined by a low, narrow strip of land. Beerenberg (Mountain of bears), as the god of the Arctic, is majestically enthroned in his noble solitude, with a forbidding court of lesser volcanoes at his feet. Wrapped in a mantle of white he rarely shows himself in all his royal splendour, but hides now his summit, now his base, in the sombre mists which float slowly, solemnly, eternally. . . .'

The ice-belt loosened every summer, and was sometimes pushed farther north, but landing in Mary Muss or Driftwood Bay was no less difficult, as there was no shelter. Their feet would sink in a kind of black dust, strewn, like sinister wreckage, with tree-trunks like ivory skeletons : trunks that had left the Siberian forests many centuries ago, and had been carried by the ' same Polar current as brought Nansen's ship so close to the Pole.' A strange migration, and the more stirring in that humble objects were also washed on to those inhuman shores, such as floats and fishing tackle, snatched probably from some little Norwegian or Russian boat, and the bones of whales. Great stretches of lava take on tortuous shapes, gigantic gargoyles modelled by nature's hand. In a few bold sketches Pierre le Conte caught their fleeting likenesses—one like a judge, another a Chinese pagoda.

For a long time there were no inhabitants on Jan Mayen but polar bears and foxes, and sea-birds, no other dwellings than the ruined huts of a party of Austrians who had once wintered there, now the lairs of blue foxes. Was there ever a





monastery in this desolate place, as Saint Brandan declared, or did the wandering monk dream? . . . The snow has cooled for ever the fire of the volcanoes, of which only the craters remain. The scientists on board the *Pourquoi Pas ?* confirmed Charcot's earlier observation that what had been taken by navigators as smoke rising from the volcanoes was simply dust caught up by the wind. This magnificent island appears as a fantastic dream-land, above all when Beerenberg shines in all its glory.

Latterly the Norwegians had been making considerable efforts on Jan Mayen. In 1921 an engineer, Hagbard Ekherold, had set up a meteorological observatory at the foot of Beerenberg. Four years later, when the *Pourquoi Pas ?* was in those waters to allow of magnetic observations being made, Charcot had the surprise of receiving an amiable invitation to dinner from the hermits on Jan Mayen. From them he learnt that a Danish expedition, commanded by Bjerring Petersen, had been on the east coast of Greenland near the mouth of Scoresby Sound, for over a year. The Jan Mayen station had been transmitting messages from Copenhagen, but some anxiety was felt as to the safety of the expedition.

'My formal instructions,' Charcot confessed, 'did not authorise me to visit Greenland ; but it is an unwritten law in the French Navy that a captain may go against all orders and run any risks in order to save lives in danger.' So the *Pourquoi Pas ?* sailed westwards.

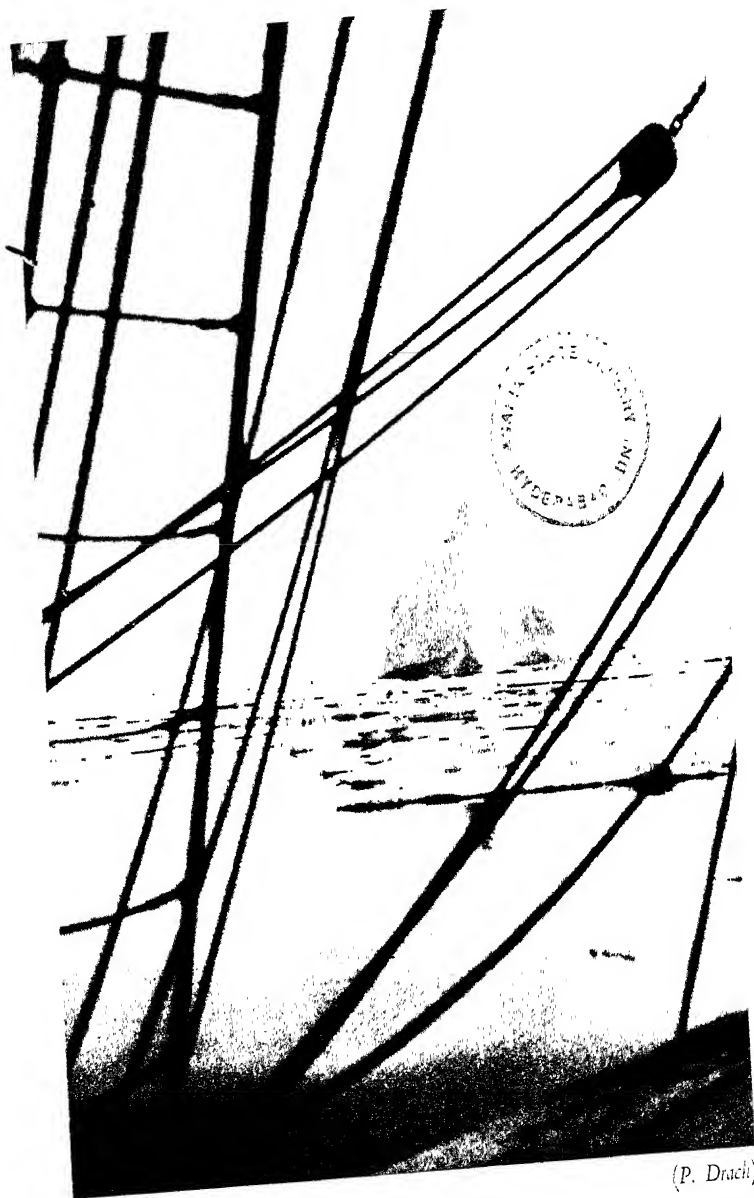
A new chapter in Charcot's life was beginning. Yet he was nearing his sixties, his beard and his hair were nearly white, though physically he was as strong as ever. The *Pourquoi Pas ?* was going to renew her acquaintance with the icebergs, the slow progress through the ice, the glory of vast white plains. Charcot rubbed his hands with joy, and

smiling quietly to himself, took up his position in his crow's nest. For the moment he forgot all the years that lay between him and the Antarctic. The crew shared his delight.

Now they were not making for the Unknown, but for Uncertainty. The Danish explorers had surveyed this enormous island, the largest in the world apart from Australia, almost in its entirety. It was known that a dome of ice, reaching to about 10,000 feet high at its summit, spread over nearly all the interior, that the north coast was uninhabitable and inaccessible by sea, but that, in certain years at least, the east coast was approachable. About a thousand years ago a Norman, Erik the Red, had ventured into those waters. Navigation was hazardous and very variable. Charcot summed up his own experience: 'All the conditions present variations which last for an age, a year, a season, or a day—one is tempted to say for an hour, creating uncertainties for the navigator or explorer over which even the splendid information given by wireless cannot yet triumph.'

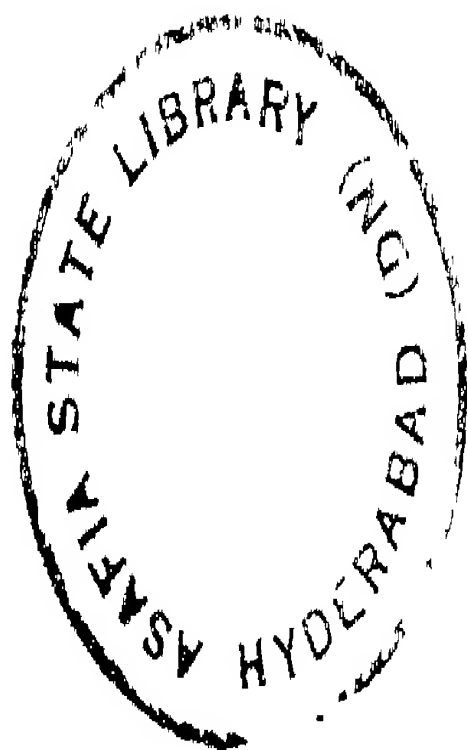
Charcot was making his first acquaintance of this northern kingdom, which he was to describe later in his book, *La Mer du Groenland*.¹ He noted that 'Tremendous pressure is produced by the currents, the wind and variations in temperature; the lift and movement of the ice produce hummocks which when they get free become floes, or "floebergs."' Icebergs are very numerous, owing to the continual 'calving' of the glaciers. The currents pile up the ice when the tide is on the flow, and release it when the tide ebbs. Floes and vast stretches of ice move down to the Arctic Sea in great numbers, past Spitsbergen, Greenland and Iceland. There two currents clash; these are the currents carrying the driftwood washed up on Jan Mayen. One, christened

¹ Published by Desclée & Brouwer.



(P. Drach)

A Greenland iceberg



by Charcot the Atlantic Drift, is warm, paradoxical though this may seem. It is a continuation of the Gulf Stream. The other, the big Polar current, carries the ice masses westwards from the Behring Straits; it divides into two branches, one going north of Spitsbergen, the other towards the south-west. These currents attain an amazing speed, sometimes travelling 15 miles in a day. Once some shipwrecked Danes, having taken refuge on an ice-floe, travelled 600 miles in 39 days. Charcot quotes another instance—the case of Nansen who was caught in the ice-drift, and was carried southwards from lat. $65^{\circ} 2' \text{ N.}$ to $61^{\circ} 32' \text{ N.}$ in eleven days.

Pierre Drach, who sailed in the *Pourquoi Pas ?*, wrote that : ¹ 'The existence of these currents accounts for the enormous differences in climate and sea-conditions on the same latitudes in the Arctic. The west coast of Spitzbergen is clear the whole summer, and accessible to big tourist liners as far as lat. 80° N. , and at that latitude the Greenland coast is blocked all summer by impenetrable pack-ice.' The same peculiarity can be noted in the case of Iceland, which is on more or less the same latitude and where sea-ice is rarely found.

Later than August navigation in the region of the pack-ice round Greenland is 'useless bravado.' Even specially built ships have had to give up: the German polar-ship *Hansa* was lost there. The winds, too, are disconcerting in their rapid changes of direction. Bays in the pack-ice are nothing but traps for ships. 'That is why faces and voices grow serious,' said Charcot, 'when discussing the state of the ice.'

Such was the region into which he was to venture. He had not been up in his crow's nest since 1913—he wondered

¹ *Navigation dans les Glaces avec le 'Pourquoi Pas ?'*, Bulletin du Yacht Club de France, Christmas, 1936.

if he would still be agile enough to get there. It was from that post that a Polar navigator should direct his ship, and decide whether or not to take her into the ice, to expose her to collision with great blocks, or cunningly to steer her through them. The speed of the boat was lessened in those dangerous waters, which sorely tried their patience. But it gave them the opportunity to see the magic of wonderful scenery designed by the Architect of Nature, so beautiful that they could only gaze in silent admiration.

The Danish scientists, they thought, must be on the north bank of Scoresby Sound, the biggest fjord in the world. And there it was that the men on the *Pourquoi Pas ?* saw the cabins and sheds, with bear-skins hanging out to dry. As they approached the Danish flag was hoisted to greet them, but it stopped at half-mast—the leader of the expedition had died of scurvy. As he was the only one of the party to understand Morse, his comrades had been out of touch with civilisation for six months, unable to interpret the messages they had received. Charcot offered to take them back to their own country, but they decided to remain until they had completed their work.

The French went to work collecting fossils on Jameson Land, north of the fjord. The naval cook and circus clown now added another rôle to his repertoire, that of geologist's assistant ! On August 5th, after her voyage through the ice, the *Pourquoi Pas ?* put in at Reykjavik, in Iceland. There, too, twelve years had seen many changes. Under Danish rule, an artificial harbour, a telegraph system, motor-he cinema and a museum had changed the lage into a modern town.

Mikkelsen and the Eskimos

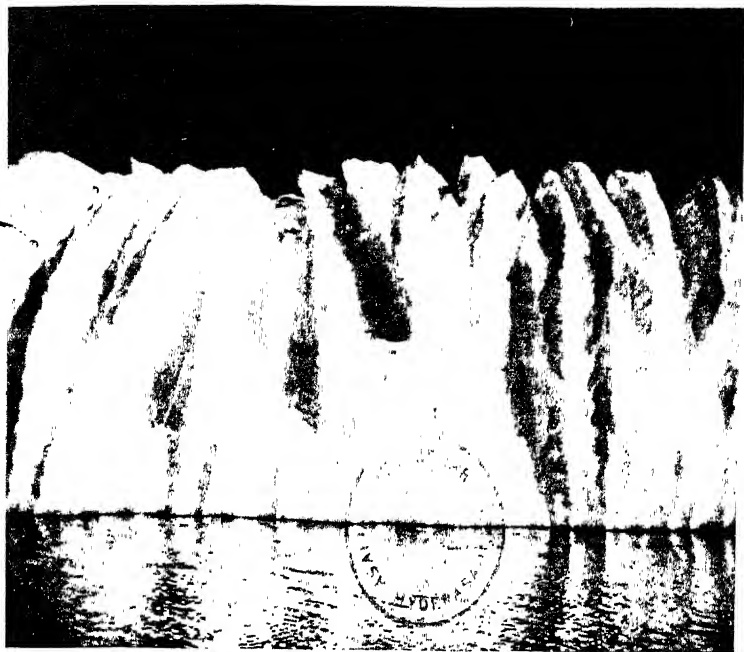
THE fossils collected by the expedition were of such great interest that in the following year, 1926, the *Pourquoi Pas ?*, with the consent of the Danish Government, was officially charged with returning to Jameson Land.

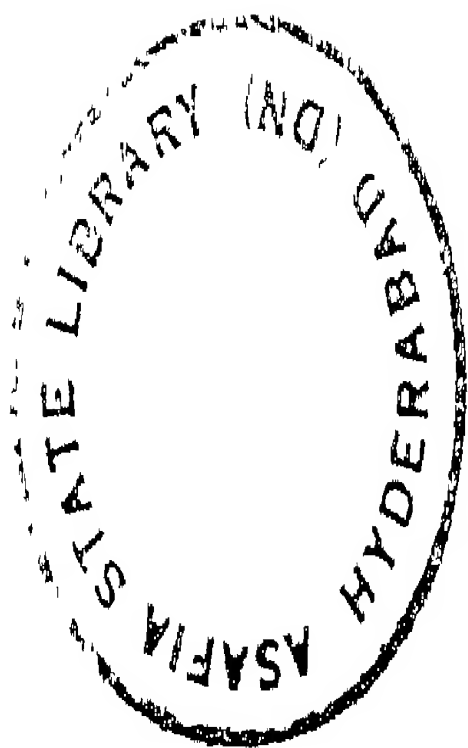
In Greenland conditions of existence are not as hostile to man as they are on the same latitude in the southern hemisphere. There the only signs of life were the penguins, seals and sea-birds ; in Greenland there were men, the Eskimos. But though Eskimos lived in great numbers on the west coast there had been none living on the east coast for over 200 years. To establish her rights over Greenland, Denmark had decided to send an expedition and set up a colony of Eskimos on Scoresby Sound, if it was found to be a habitable place. The leader of the expedition was an already well-known explorer : Ejnar Mikkelsen. He had made a journey alone across Northern Alaska, explored the North-East of Greenland ; he had been lost for three years in the Arctic ; only recently he had brought a rudderless ship safely back across the ice. This was the man who was to become one of Charcot's greatest friends, and of whom Charcot said : ' It would be impossible to find a more upright, frank and loyal friend ; he is as kind as he is strong.'

At the time of Charcot's first voyage to Greenland Mikkelsen had just transported ninety Eskimos from Angmagssalik to Rosenvinge Bay. They had run up and down the shore, rolling

in the long grass, clapping, laughing and singing with joy. For these northern people, with their round yellow faces and little slanting black eyes are always gay, very mischievous, delighting in ornaments and finery. They, too, were to become Charcot's friends. The Danes, who were very eager to keep their new colony free from alcoholism and disease, trusted to Charcot not to betray their aims.

On this, her second voyage to Greenland, the *Pourquoi Pas ?* was to be accompanied by a Danish vessel, the *Gustav Holm*, which was taking provisions to the new colony. Mikkelsen left the *Gustav Holm* and joined the *Pourquoi Pas ?* at the Faroes. From the moment they met Charcot felt a strong liking for the Dane, who at first was aloof and reserved. 'From then on we worked together with a unity of judgment that is rarely found between two men.' When they reached the pack-ice 'we had to put up a good fight, swinging aside blocks of incredible size,' wrote Charcot in his account. The elderly explorer was at his post in the crow's nest for twenty-eight hours on end, without food, 'a bit numb, as it was freezing, but so perfectly happy that I neither felt hungry nor tired.' When they were in sight of Rosenvinge Bay, Mikkelsen, in his eagerness, climbed up on to the topgallant-yard to be with Charcot. 'The sun gave a lovely soft pink glow to the splendid line of glaciers on the southern shore, the sky was stained violet.' Kayaks put out from the shore, and the frail skin craft slipped cunningly through the ice. The presence of human beings in those surroundings made such an impression on them that for a moment the two men were speechless. Then Mikkelsen scrambled down the ratlines and hoisted up a kayak and its occupant, comically dressed in half-European and half-national costume—to his close-fitting breeches and anorak he had added an appalling sports cap.





In honour of the very special occasion he was given a small tot of rum. A few minutes later Mikkelsen told the world by radio that 'the first attempt at colonisation of the east coast of Greenland was a great success.'

Nature is kindlier here than in the Antarctic ; she allows of existence at least. There is even an attempt at summer in Greenland ; for a few weeks the land, stripped of its snow, is gay with heather and bilberries ; ice-buttercups and poppies and cinquefoil flower in the grass under the birches and dwarf willows, and then the country deserves its name of Green Land. Mosquitoes are the price paid for this flowering, a flowering as touching as any sign of vegetation in desolate regions. The pale spring flowers of the Sahara hold more significance than all the profusion of a country garden.

The Eskimos had found that they could get a lot of hunting and fishing ; there were bears, walrus, white hares and salmon. Armed with harpoons they would set off in their frail kayaks and lie in wait for their prey, sheltered behind small skin screens. Some of them came on board to pay their respects ; they showed how they could turn somersaults under the water. They were given a warm welcome by the crew. The women and children crowded fearlessly round the Europeans, but would not help with the transport of the packing-cases, although they seemed obliging in every other way. "We don't want to help you," they said, "because if we did you would finish quicker and leave us sooner !"

Their witty remarks, full of common sense, were a joy to their visitors.

"I have tried to threaten them with the pains of Hell quite in vain," their pastor said.

"What is hell like ?" they asked me.

"One burns in eternal flames !"

“‘Oh ! very nice ! We shall have had enough of the cold by then, we shall be only too pleased to be in a nice warm place !’ ”

Even though they were nominally Christians, the Eskimos still revered the *angakok*, their sorcerer, who took his inspiration from the man in the moon. Mikkelsen chaffed him, but the *angakok* had the last word.

“You don’t believe me ? Well come with me, Mik. I will expect you on the shore at nine o’clock to-night.”

When Mikkelsen arrived the sorcerer was already fitted into his kayak, as neat as a glove, his paddle ready in his hand. “Come on, hurry up ! The moon won’t wait. Get into the other kayak and follow me,” and he pointed to a diminutive child’s boat. “That’s how it is,” said the cunning old man, by way of excuse, “there are only two kayaks that can go to the moon, mine and that one. It’s not my fault if you can’t get into it, but don’t go saying that I refused to take you !”

The women only ventured on the water in bigger, heavier boats, called umiaks. They were not lacking in charm, these Eskimo women, with their long sleek black hair, shining with seal-fat, and their coloured bead necklaces.

Rosenvinge Bay was getting a lot of visitors ! A geological mission arrived there led by another famous Danish explorer, Lauge Koch ; they were going to make journeys northwards, for which they had a motor-launch and forty dogs. It was thanks to this launch, and the cordial goodwill of the Danes, that Charcot, accompanied by Idrac and the naturalists Remy and Lacoste, was able to go to Cape Stewart, a place inaccessible to a larger vessel.

The *Pourquoi Pas ?* had to face tremendous difficulties on leaving Rosenvinge Bay, but the common struggle only served to strengthen the friendship between Charcot and Mikkelsen.





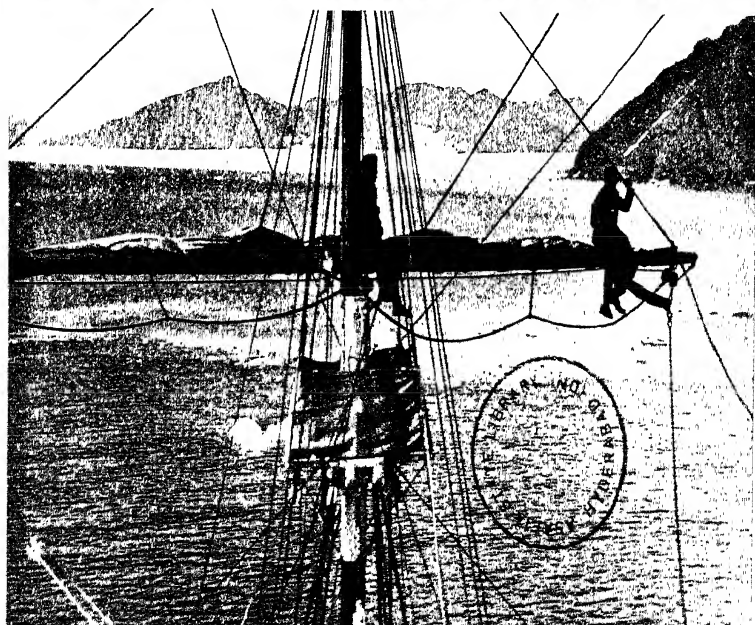
Both in their crow's nests they were the only ones to realise their danger, a look or a nod of the head and they understood each other. Below, the crew, relying on their leaders, joked unconcernedly.

Having mastered the principal rules governing the ice, one is not thereby out of danger when sailing through it. On leaving Rosenvinge the sea had been clear, but soon it was crammed with ice, closing in on them like a gigantic vice. The pilots tried in vain to find a reason for this phenomena, so that they could outwit it. From the far end of Scoresby Sound a whole field of ice, or rather a solid bay of ice, was on the move. Nature can play these tricks at the Pole. The floe was nearly 20 miles long, and moving slowly down towards the open sea. The *Pourquoi Pas ?* had to get out of Rosenvinge Bay ahead of the relentless monster, if not they would be crushed without more ado. They must get through. All hands on deck ! One team stationed aft furiously pushed the ice away from the propeller and rudder with spars, another kept the stem free ; the helmsman gripped the wheel but every few minutes a violent shock jerked it from his hands and the ship had to stop. The terrifying 'cannoning' of the Antarctic had begun again. The little *Pourquoi Pas ?* thrust huge floes aside ; steam spurted from her valves. The men were bathed in sweat. But they were through, vanquishers of those blind forces. 'Then,' said Charcot, 'pleased with ourselves up there, surrounded by the splendour of a Nature who had let us beat her, and below us our plaything of a victorious ship, Mikkelsen and I shook hands without a word.'

At 1.40 a.m. the sun rose in 'a glory of gold and flame,' lighting up the lofty mountains. 'When I was with Amdrup,' said Mikkelsen, 'I gave the name of Blossville Coast to the country beyond Cape Dalton.' He was honouring a French

lieutenant, Jules de Blosseville, who had always dreamed of making magnetic observations in Polar regions. The Navy gave him the command of a brig *La Lilloise*, which left Dunkerque in the spring of 1833. At the end of July 'he sighted land, though he was separated from it by 24 leagues of ice, and took bearings of the coast of Greenland, from lat. $68^{\circ} 34'$ to $68^{\circ} 55'$.' On his return to Iceland he told of his success and announced his intention of going back to complete his discoveries. That was the last ever heard of him, and three years later his death was presumed, and his name struck off the Navy List. This was the first time that a French ship had come back to those waters. The *Pourquoi Pas ?* ran up her colours.

This was destined to be an eventful journey. After their escape from the ice, and as they were leaving Iceland on August 16th, the *Pourquoi Pas ?* ran into a cyclone. With a strong S.S.W. wind blowing, her foresail, topsail and forestaysail well set, the *Pourquoi Pas ?* was able to continue on her way. Charcot, his eye glued to the barometer, coolly awaited the inevitable development of the cyclone. Would they be caught by the centre, and be held in the becalmed zone, almost as terrifying as the tempest itself? He watched for the famous cone-shaped waves, even had them photographed. The sea became appalling, with waves as high as those at Cape Horn. The *Pourquoi Pas ?* juggled her way through them, and her passengers were even able to laugh when the heavy seas resulted in a full tureen of soup being upset over an unfortunate naturalist's head. Charcot concluded his account of the journey with the following fatalistic words: 'Ships are made to sail in all weathers, and sailors to steer them.'





Charcot the Man

THE name of Charcot reached the peak of its fame in 1925. In that year the Faculty of Medicine solemnly celebrated the centenary of Dr. Charcot at the Sorbonne. All the medical societies in the world sent delegates. Tribute was paid to the greatness of both father and son in the speeches.

"Do you remember, Jean Charcot," said Anatole de Monzie in his speech, "when, after steering you through a dangerous channel, the Pernambuco pilots refused to collect the pilot-tax because your name was Charcot, and they respected the greatness of that name? When simple people feel such reverence, others must unreservedly follow their example, knowing as we do that they are right."

The Cross of the Legion of Honour was given to Jeanne Charcot Hendry, and to her husband on the same occasion, for their loyal service during the war.

Two years later the explorer was awarded the Prince of Monaco's Prize (100,000 francs), which he decided to dedicate to his work. The same year he was elected a member of the Académie des Sciences, and made a Commander of the Legion of Honour. 1927 marked a stage in the glorious evening of Charcot's career, an evening that had come suddenly, with no fading twilight, an evening which would end with the fiery setting of the sun.

A deep grief and personal sorrow marked that year of his life. His eldest daughter Marion died at the age of thirty-

two. Though he had two other daughters, Monique and Martine who, both gifted painters, carried on the artistic traditions of the family, Jean Charcot was none the less deeply affected by the loss of Marion. The penalty paid by men leading extremely active lives is a poignant regret for all the hours spent away from those they love. To a father nothing can seem more unjust than that a child he has begotten should die before him. A name carved on the family tomb and a lifeboat, the *Marion Charcot*, were all that was left to him of his daughter.

The day after his daughter's funeral Charcot was supposed to be giving a lecture in aid of a seamen's charity. Rather than be the means of the loss of a considerable sum of money (10,000 francs had been taken for seats) for the sake of the charity Charcot mastered his grief and gave the lecture.

To take his mind off his personal sorrow he put a long-considered project into action. This was the writing of a book on Christopher Columbus, a work which was at the same time a technical study of navigation. It was entitled : *Christopher Columbus, as seen by a sailor*. He was helped in this work by Marthe Emmanuël, daughter of an eminent composer, who was librarian at the Geographical Society, of which he was vice-president, and who was to be, until his death, his very dear assistant. One of his favourite working places was the Society's headquarters, which were in the former residence of Prince Roland Bonaparte. The books, the precious old atlases, the globes of earth and heavens, were in a beautiful panelled setting. Readers often noticed Charcot striding up and down the room, his hands in his pockets, completely absorbed in his thoughts. To look at the latest weeklies he would perch on the arm of one of the big leather chairs, a cigarette always in his mouth.

'I am not trying to prove that Christopher Columbus is the greatest sailor the world has ever known,' wrote the navigator turned historian, ' . . . I simply want to make him better known as a navigator. It is strange how people are obsessed with the idea of belittling and denigrating some men, so that they can exalt others in their place ; they should be content to give each man his due, and be glad that there are men to admire.'

In his account of the career of the great discoverer Charcot unconsciously incorporated much of his own experience, and also his grievance, the only grievance he ever nursed, against the Navy, who persisted in considering him an amateur. Probably he exaggerated the extent of their animosity. It was rather against Members of Parliament that he had had to struggle, against their indifference. When he went to ask those gentlemen for credits for Polar expeditions they looked at him as though he were proposing an expedition to the moon.

'The most difficult moments of my voyages,' Charcot once said, 'are the hours I have to spend in the anterooms of ministries, in the corridors of the Chamber of Deputies, enlisting the help of the usher and trying to convince our deputies one by one as they pass by. I hang on to their waistcoat buttons—oh dear, yes ! just like their constituents, only with less authority !'

Every year he had to beg the money he needed. Marie was a great help to him (his step-sister, Marie Waldeck-Rousseau, whose widowhood in no way affected her unassuming but very real influence). This remarkable woman, still lovely, though over seventy years old, wearing an old-fashioned white cap on her white hair, with a heart of gold under a sarcastic, dry manner, had a liking and a bent for politics. She was always a Prime Ministeress, in the same

way that other women are Ambassadors all their lives. The best-known statesmen, sitting at her feet, felt like school-boys beneath her penetrating gaze. An invitation to luncheon in the Rue de l'Université was regarded, to the last, as a great privilege. Marie only had to make a telephone call to smooth over all difficulties, and many were the difficulties she had smoothed for her brother.

He himself disliked politicians, except for a few with whom he was personally friendly. He knew nothing about politics, he would say. Nevertheless, he had been elected, because of his great popularity, as *conseiller général* of Saint Servan. He had accepted as he had no wish to hurt the feelings of those kindly people, but he had refused to stand a second time. His strong feeling of patriotism, key to all his actions, held no trace of political ambition. Abroad he always thought of himself as being on a diplomatic mission. The memory of him that has remained with great and humble alike is his reward for that outlook. Mikkelsen hit the mark when he said: 'In the future, Eskimos will judge Frenchmen to possess Dr. Charcot's sterling human qualities, and any Frenchman who, in time to come, has anything to do with Scoresby Sound, will certainly reap the benefit.'

He shared the fruits of his experience without the slightest hesitation, not only with his followers and foreign colleagues, but also with complete strangers who could give him nothing in return. Two very young Englishmen once naïvely wrote to him telling him that they were going to make a cruise off Brittany. They got back a ten-page letter, crammed with advice, information, and a whole set of nautical instructions drawn up especially for them. All the young men who sailed on the *Pourquoi Pas?*, whether scientists or sailors, he treated as his sons. If he sent them ashore for a few days

he could not prevent himself worrying about them." Dollfus, one of them, has spoken for them all: 'Those who do not love him are those who do not know him, or do not want to know him.'

He ~~was~~ was a romantic, and not ashamed of his feelings. He was not one of those who consider it necessary to trample all kindly feelings underfoot to make a successful, exceptional career. He expressed his affection for his friends in long open-hearted letters, always handwritten. 'I can't bear those stiff, sad people who hide their decent feelings behind a mask of a face,' he said.

Every beggar who applied to him got an answer, material help, a job, or a little money. He gave unhesitatingly. When an old woman wrote to him from Limoges, saying that she longed to see Paris again before she died, but that she had no money for the journey, he at once sent her what she needed, despite the lively protests of his family. His charity extended even to burglars. One day his house at Neuilly was robbed; silver and clothes had disappeared. As a joke Charcot published a letter to his burglar in a newspaper: 'Why on earth did you take old shoes, which don't keep out the wet, when if you had asked me I would have given you some much better ones?' Was the thief's heart touched? At any rate his son appeared, bringing back all that had been stolen, 'because it belongs to M. Charcot.' Several weeks later the thieves were arrested for other burglaries, and Charcot was called as a witness. He firmly shook hands with the thief's son, to the extreme bewilderment of the gendarme: "*Eh bien!* what about me?"

Charcot always went about in a blue suit, without an overcoat, wearing a shapeless grey felt hat, *mon frivole*, well on the back, or far on one side of his head, as though he were still

a student.^f Now he was over sixty, and his bald crown increased the height of that great forehead. But the little beard, jutting out if he grew angry—though his anger never lasted long—prevented there being too much of a likeness to the great man of the Salpêtrière. He had the same nose, the same classic profile, but his mouth was bigger and straighter. His large black eyes, which had kept their southern look, had a gentle, melancholy expression. Charcot was melancholic, tormented, one of those hyper-sensitive people who worry about everyone and everything; there was no trace of the destructive or sarcastic in his make-up.

He would be animated by flashes of sudden gaiety in the company of other people, and kept his youthful love of teasing and joking. He never failed to make his point, or feared to express himself baldly, he had never hesitated to use the famous Cambronne swear-word, though sometimes he did resolve never to use it again. Then, in his ship, they would lay a conspiracy to make him say it, infuriating him with questions so obviously idiotic that, at last, to everyone's huge delight, out it would come.

It was on his ship, among his 'children,' that the real Charcot could be seen. He always did all he could to make the ship a home for them.

He slept but little, only a few hours a night, and was always the one to rout out the others, especially 'those slackers, the painters,' to see the beauty of an Aurora Borealis. It was on the bench of the poop that he loved to linger in the day-like nights. Sometimes he would meditate alone, a cigarette in his lips, motionless. And then he would go down to his cabin, the lamp shining down on his bent head, whilst a tiny kitten, rescued from a rainy quayside, lay curled up asleep on his bunk. In a miniature hammock lay the

ship's mascot, a plush rabbit given him by his daughters ; it had a wonderful wardrobe of uniforms and explorer's clothes, all presented by admirers. Mr. Rabbit figured later in the exhibition arranged in Charcot's honour in 1933 by the Geographical Society, side by side with models of his ships and the maps he had had published. Now and then the captain would give a show on the ward-room table, for the amusement of the crew or Sunday visitors, and then Mr. Rabbit, disguised as an academician, would make extraordinarily funny speeches.

At the slightest unusual noise Charcot would rush up on deck. When not on the yards or the bridge, he did not shut himself up in his cabin, but after dinner lingered at table, near the stove with its copper pipes, listening to the young men discussing their plans in their beloved mess-room. On the light pitch pine walls were pictures of his father and Paul Doumer, drawings by Guy Arnoux, several sketches of flower meadows by Madame Charcot, and a statuette of Our Lady of the Whales, the patron saint of the ship ; a Breton would never sail in a ship without an image of the Holy Virgin. On either side of her, instead of candles, there burnt electric lights, one green, one red, which had been vowed to her in the midst of a storm. Near the ladder was the rack full of rifles, and the black and white pennon of the *Pourquoi Pas ?*, which had floated over Charcot's tent on the Southern ice. There were thousands of books on the shelves. Charcot kept the place of honour for his favourite, Jules Verne, and he would read and re-read *Twenty Thousand Leagues under the Sea*, the book which had meant so much to him as a child. There were all his other favourite authors, Euripides, Rabelais, Montaigne, Shakespeare, Victor Hugo, all of whom his father had taught him to love ; the sea-writers,

Conrad, Verel, and best of all his friend Paul Chack ; there were Mark Twain's books, and the books of the nature-writers, Colette, Duhamel, Demaison and Francis Jammes.

Charcot was very fond of the seamen and had a high opinion of them. 'Our country holds a surprising number of adventurous and stalwart men. Brittany and Normandy lads would go gaily to the ends of the earth,' he wrote. Those who served under him were his friends for life. On his daughter Monique's wedding-day he had a touching proof of the devotion he inspired. Paumelle, his former steward, then a gendarme, had his place at the table of honour. When, blushing with confusion and emotion, he was going to take his place among the other guests, he suddenly turned : "Captain, if you don't mind, I'd like to wait on you once again . . ." and grabbing a dish he stood behind Charcot and served him.

He used his authority to get his men out of trouble, not into it. And when, in 1929, at the age of sixty-two, he no longer had the official right to command his ship but only to lead the expedition, his good nature soon put everyone at their ease in what was an awkward situation. The officer put in charge gave Charcot the respect that was his due, and Charcot, on his side, took care not to interfere with the prerogatives of the captain, actually junior to him in rank.

One day, as they were weighing anchor, he noticed that one of the seamen was missing. This was a serious offence for a registered seaman ; he would have to be reported as a deserter. Charcot sent a car to his house to fetch him back in time, and paid for it without a word. During the war he went further.

'It was at Lorient, and we were to leave a few days later for an unknown destination. One of the men, who came from Hennebont, had asked for permission to go and see

his family. I obviously could not refuse to give it. So off he went, having given a solemn promise that he would be back four hours before the ship sailed. The hour came—no seaman—I waited a bit, but when we were over-due I had to leave without my man.

About ten days later we put in at Cherbourg. The first man I met rushed up and gaped at me in bewilderment. "Oh! you're not dead?" As you can imagine, that was a bit of a surprise. The whole Navy, the whole town, everyone, knew all the details about my death, a heroic death if you please, going down with my ship, standing on the bridge, with the flag flying, and my shouting "Vive la France!"

'This was all very well. But had my family heard the news? I made a dash to Paris, and luckily they had not heard a word of the story. I wondered who on earth could have spread such a rumour, and I soon found out when the police got hold of my fine deserter. He was the wretch; he had invented the whole story to explain his being ashore. Blind drunk, he had told everyone that he was the sole survivor of that heroic episode. He was flattered and made much of, and granted long leave, and spent happy days waiting for the inevitable sequel.

'I was so glad that I was not dead that I got things put right and saved my hero from a court-martial!'

Would that, in the time that was to come, the other 'sole survivor' had invented his whole terrible story! . . .

Charcot's was an embracing and humane patriotism. 'When in danger at sea, we are all internationalists. The nationality of the man in danger is of no importance. We have to risk our lives to go to his help. That word humanity, so widely used, regains its meaning, with all its force, its beauty and its grandeur.'

That his modesty and humility were boundless is abundantly proved by the admissions he continually made, even to those from whom he might have expected the highest admiration. It is touching to read what he wrote about himself. 'A man of good-will, a mature man ; but still too much of the child, insufficiently master of himself, always dreaming. . . . My only real virtue has been that I never intended to harm anyone. . . . A wretched calling ! and I chose it freely. Or again : 'I am not particularly proud of myself. I only did one intelligent thing in my life, choose a career where there was very little competition !'

He might have added that he chose it quite disinterestedly. Not only did he receive no kind of salary during his Antarctic expeditions, on which he sacrificed his personal fortune, but when after the war he was appointed director of the *Pourquoi Pas ?* in her new capacity as a floating laboratory, he at first got no wage for that ; when later he was working on the fitting-out of the *Pourquoi Pas ?* he received 1,500 francs a month, the wage of a midshipman. He might have made a fortune by being on various boards of directors, but he always refused to do so.

In an unbroken progress, year by year, one can see the development and growth of Charcot's fine character. His religion had a base in his nobility. In many the observance of rites and dogmas, the belief in strict principles, only strengthens their ill-natured intolerance of their fellow humans, and their Pharisaic pride. For Charcot, faith, becoming deeper and more defined, could be expressed in an endless hymn of praise. He, who had visited the ends of the earth, could realise the mystery of nature better than most people. Above all, as a sailor, he loved simplicity, and could feel a direct gratitude for the hand of Providence, when it saved him in the storm.

Providence ! It is a word used often and too lightly, and then the day comes when it takes on a new meaning.

The mention of this deep, living, religious feeling in Charcot will win him sympathy from many people, but will provoke at least surprise in others. It must, however, be admitted that this complex, personal feeling, often defying analysis, is of worth, in the degree of sincerity felt, the meaning given it, and its influence on action.

The sailor and not the scientist spoke in one of his last letters to Marthe Emmanuel in September 1936 : 'Mathematics are both useful and estimable ; they are of great service in navigation. But a mathematical mind without common sense, refusing to allow for circumstances and the Unknown, leads to a dangerous Utopia, paradoxical though that may seem, and, only too often, to mistakes.'

He did not hold conventional views on dogma. It was the virtue of charity—so dear to his own heart—and the poetry in religion that he loved. He prayed often, day or night, and would fervently repeat Christopher Columbus's favourite invocation : 'Lamb of God, that takest away the sins of the world . . .' The artist in him loved the soothing flow of the liturgy, he could surrender to it trustingly, as to the cradling of the waves. The song of the sea, a canticle on the organ, were they not alike a hymn to the invisible Creator ?

To pray in church at fixed times is to be in more intimate touch with those one loves, who share the same faith, who are also, many miles away, kneeling before just such another altar. It is a link, based on immutable rites, across time and across space ; an initiation to contemplation of the infinite, the beyond, accustoming one to the idea of a final departure.

In Search of Amundsen and Guilbaud

'IN 1926 I vowed never to sail in the ice again. I returned this year,' wrote Charcot in 1928.

The previous year, with a hydrographical engineer named Marti, he had been experimenting with an instrument for use on wooden ships like the *Pourquoi Pas ?* for registering soundings. It was a delicate procedure, depending for success on the line being absolutely taut and straight.

News of the shipwreck of the *Italia* came at the beginning of June, and Charcot at once offered to help in the rescue work. The Italian Government declined his assistance, they considered that a search by aeroplane would be more effective. The French Air Force put the 'Latham 47' at the disposal of Amundsen and Dietrichsen, the Norwegian explorers. The plane was commanded by Captain Guilbaud, who had with him Lieutenant Cuverville, a mechanic, and a wireless operator. They left Tromsø for Spitsbergen on June 16th and thereafter there was no further news of them.

This time the *Pourquoi Pas ?* was allowed to help in the search. She was to set off with a cruiser, the *Strasbourg*, taking her orders from Admiral Herr.

Charcot was accompanied by the scientists who had collaborated with him in his recent campaigns: L. and P. Dangeard, P. le Conte and F. Emmanuel. 'I am trying very hard, and I think with success, not to be out of place in this nursery,' wrote Charcot. But he hoped to have some

old-stagers with him, his Antarctic companions, Pléneau and Gourdon.

Charcot had found Pléneau in his office : "I am counting on you to help me in the search for Amundsen."

"You have no more chance of finding him up there than you would have on the big boulevards," replied the matter-of-fact Gascon.

"Why not come ?"

"My business affairs . . ."

"If you peg out to-night your business would get on very well without you ! Come on, now, I'm relying on you. We leave in a week on the three o'clock tide."

And a week later there was Pléneau on the quay at Saint Malo, carrying his suitcase. "Well, old man, here I am !"

"You think that surprises me ? We were expecting you ; Monique has put some flowers in your cabin. After all, suppose the *Pourquoi Pas ?* did not come back in September, supposing that we had an accident, I wonder how you would feel, thinking of us caught in the ice, whilst you were comfortably warm in your office !"

All the preparations were made with great enthusiasm ; the bows of the ship were reinforced with sheet-iron, and munitions, explosives, warm clothing, provisions for a year and sledges were loaded, all the equipment for an expedition to meet any contingency ; for once one sets out to fight the ice, one must be prepared for the worst.

They left Saint Servan in superb weather, 'amidst the excited enthusiasm of the ordinarily reserved inhabitants. These people think that we are going to do something extraordinary, and though I do not share their illusion it is a great thing to have stirred them.' Their first port of call was Bergen. The arrival of the famous ship created a sensation

in the little town, so pretty with its gabled houses and its setting in the hills. A ship chandler, one of those sailor-shopkeepers, who sells everything a ship could need, and so is consoled for being no longer at sea himself, came on board. They talked of the disappearance of the *Latham*. 'It is tragic for the young people,' said Charcot, 'but a wonderful death for Amundsen, who is old (he is only a few years younger than I am). Old men should know when and how to go.'

Charcot received a wonderful welcome at Tromsø, from the Geophysical Institute, which ran the station on Jan Mayen. Tromsø is a jumping-off place for all Polar expeditions, and the presence of big tourist liners in the harbour in no way affects its use for that purpose.

There was still hope that if Guilbaud's hydroplane had been forced down it might have drifted on to the Greenland pack-ice. It was on the ice and on land that a search should be made, and the *Pourquoi Pas ?* was well equipped for that work. But official orders were to thwart their plans—and yet, if the search was unsuccessful the responsibility would be Charcot's. A sad, monotonous journey under a grey foggy sky was before them, haunted by the thought of the shipwrecked men, tedious in the futility of the search. Charcot, who was an experienced man, stood it better than his young companions with their more impatient, more positive natures. He enjoyed this 'dog's life' for its own sake, they perhaps only led it on the condition that they should be finally successful.

'I really wonder what my ship and I came here to do,' wrote Charcot. 'We have to go wandering about, drawing lines all over the map to show that something has been done, and of course the *Pourquoi Pas ?* has to go where there is the least chance of our finding anything.' The Admiral, who

'had only seen ice in drinks,' treated Charcot like a schoolboy, giving him brief orders and refusing to comment on them. 'As the Admiral has conceived it, our mission is unprofitable, childish and useless. As I conceive it, after having won a certain amount of liberty of action through diplomacy, it might, though with difficulty, be of some interest. My own private plan is a good deal more dangerous than the one assigned me by the Admiral, who wants, above all, no fuss; but at least, if there is any hope of finding the lost men in these parts, everything possible will have been done.'

To comply with his orders Charcot had to embark a Norwegian sealing-pilot, Lars Jacobsen. It was impossible to exchange a word with him, as he spoke neither French nor English, until Pléneau made the fortunate discovery that he knew Russian. But even without that they found that they could understand one another as far as familiar things were concerned. 'To represent a following wind,' wrote Charcot. 'I blow and then tap the back of my head!' A few gestures, a smile, gravity when the word ice (*is*) was spoken, were enough to make the two navigators, perched on the top-gallant yard, understand each other.

It was an account of this journey in a Northern summer that Charcot published under the title of *La Mer du Groenland*. It may seem monotonous to the uninitiated, this story in which nothing happens, but those who have experienced it can recognise the atmosphere of those cruel regions, the sympathy for one's ship in her struggles, the brief reward of a break in the clouds, of some fairyland vision. Always the swell, the white mist or the pitiless snow. . . . 'We sail by a low cliff which borders a dense white plain stretching away out of sight, with mounds of floes and floe-bergs. We hear a sound like the murmur of a distant town strengthened

by the sighing of the tossing ice nearer to us. It is very lovely : one's heart contracts with fear and is stirred with enthusiasm. We feel our weakness before Nature's display, but rejoice in the pride of making our attack.'

Charcot was continually tempted to take advantage of the loosening of the pack-ice and land 'with a miserable inexperienced crew, sick and depressed. There are only four competent men !' But their mission was to explore the edge of the ice, not to cross it. The sails and the yards were crackling with ice, it had to be broken off to clear the way to the crow's nest. On August 1st a terrible gale compelled the *Pourquoi Pas ?* to heave to. 'At each pitch or roll of the ship the howling of the wind took on a shrill ghostly whistle, great lumps of snow piled up in the yards or on the sails fell with a dull thud on the deck. The captain and the officer of the watch slithered up and down the bridge.' And everyone, struggling with the mad heavings of the ship, thought with a shudder of the drifting *Latham*.

Charcot fumed with impatience. He never had the mentality of a functionary, content to obey orders and while away the time. He knew that he could do far more on land or on the ice, with his shore equipment, instead of toiling vainly on the sea. The wireless was no longer working as water had got into the accumulators. 'It is all futile, futile, futile. I feel that if I don't see this idiotic, dangerous mission through, it will be used as a pretext to throw me out later on.' To forget his troubles he read Shakespeare to young Frank Emmanuel, and re-read Conrad's *Typhoon*. They were 700 miles from Iceland, 800 miles from Tromsø. 'This voyage will have been a good school for the learning of resignation !' Charcot would go, as he had in the good old days of the *Français*, and smoke his cigarette in Pléneau's

cabin, pitilessly, for Pléneau hated the smell of tobacco in his cabin. By dint of many efforts they had succeeded in having almost a conversation with their pilot, a man with big hands and a serene smile. His blue eyes spoke volumes. They ended by understanding that his ship the *Heimen* had been crushed in the pack-ice the winter before, and that he and his men had got back to land across the ice.

The *Pourquoi Pas ?* was to return to Iceland on August 7th to coal and make running repairs. Then she was to go back to the pack-ice, calling in at Jan Mayen where the Norwegian meteorological station had suffered considerable damage in a storm. Charcot could not restrain a certain feeling of envy when he heard of the success of a Norwegian expedition in Mackenzie Bay, which had acted on his indications.

His companions jokingly called Charcot the 'Inspector-General of the Greenland Pack-ice,' though 'that would be a hard life as visibility is limited to 50-250 yards most of the time !' Their search was resumed on August 21st, but unhappily with no better results. 'The engine runs slowly, silently, even the ice is silent; the clop of a sabot on deck, a piece of ice falling from the masts, are startling breaks in this mournful, mighty silence.' For the sake of the others Charcot would sometimes appear his old jesting self again.

Things became slightly easier for the *Pourquoi Pas ?* They were back in the ice sailing along Liverpool Land and Rathbone Island, high jagged lands, visionary castles in the air. Tempting channels clear of ice opened out, but the end of August was too late for the undertaking of any new ventures. Charcot never tired of gazing at the pack-ice with the fervour of those who feel that a beautiful dream is about to fade. 'In the vivid, gleaming twilight, a light shone from the ice we were crossing. From my crow's nest the rigging and the masts

traced their fine black lines against the sky, lovely and graceful. When I lowered my eyes I could hardly see the deck apart from the skylight and the binnacle lamps, which shone like little night-lights. The bowsprit and the stem standing out against the darkness of the sea, giving an impression of strength and power, draw us on towards an unknown destiny.'

On September 1st the *Pourquoi Pas ?* returned once more to Iceland. According to their original instructions their mission was at an end. 'We have done our duty, uselessly and tediously, but perhaps for that reason all the more estimably,' wrote Charcot.

Dramatic news awaited them at Reykjavik. There was a telegram from the Admiral asking Charcot if the *Pourquoi Pas ?* could undertake further rescue work. Charcot answered by two telegrams ; the first stated that he was ready to obey all orders, but that their pilot opposed the idea ; the second, that after talking to officers and sailors of the country he would be obliged, *considering the time of year*, to decline all responsibility. In a letter dated September 3rd he says : 'A few hours later I received a telegram in code informing me that the ministry ordered us not to leave again until September 30th, at which date we were to return to Reykjavik and await further orders. Followed a programme identical to our previous one, with no mention of sailing in the Greenland Sea. One thing is quite clear from all this : for political reasons—intervention of Russian ships—and to satisfy public opinion, they want to be able to say that the French are continuing their search. If there was but one hundred-millionth of a chance of saving one human life, I should act differently. But *there is no such chance in this region.*'

Conscious that he was running mortal risks Charcot offered to release his collaborators. Pléneau, Gourdon and le Conte

refused point blank, and Charcot had to use all his authority to get young Frank Emmanuel to stay ashore. The next day startling news caused their plans to be changed once more. A telegram told them of the discovery of one of the floats of the 'Latham,' the only wreckage found, showing what must have been the tragic fate of the airmen in their generous enterprise. At least this cruel certainty prevented their having to expose themselves afresh to danger. Charcot had not wanted to rouse the fears of his correspondents, by speaking of what he had been going to do, but 'I can tell you now,' he wrote, 'that what they wanted us to do was the most dangerous thing in the whole world. In spite of any precautions I could take, it was much more likely that we should be lost than that we should get back safely, and I had thirty people with me !'

They had a hard return journey. The enormous swell sent the ship racing along like 'a thing possessed.'

Charcot was received at the Ministry on his return with 'Polar coolness.'

The account of the voyage was written at La Passagère. Charcot's gaze wandered over the pines towards the tranquil islets in the bay. And he penned the melancholy words as though he were murmuring softly to himself: 'I am carefully putting away my mittens, my boots and all my Polar clothing; with my ship they helped me in my first attempts, and were the witnesses of my hopes and illusions, fading on the horizon of time as the iceberg peaks faded on the horizon of the pack-ice. We have grown old together. We wore ourselves out in the same work.

'Have we finished ?

'*A Dieu vat !*'¹

¹ God's will be done.

Work for the 'Polar Year'

CHARCOT had not finished. True 1929 officially marked the age at which he should retire ; at the age of sixty-two he could no longer officially command his ship. But none the less he continued to give orders as leader of the expedition.

The 'Polar Year' was the crowning-point of his work. His aim had always been to get France to participate in Polar research. In 1929 plans were started for groups of research workers from all nations to carry out work in different parts of the world, especially in the regions of ice, in the year 1932-3. In the neighbourhood of the Poles the field of terrestrial magnetism suffers important disturbances, and it was considered to be of interest to study how these disturbances affected the rest of the globe.

The Committee of Directors of the National Meteorological Services set up a commission, which, in consideration of Charcot's work in Greenland, suggested Scoresby Sound as the area for France's observations. Charcot was entrusted with the drawing up of a plan. Professor La Cour, President of the Commission, studied preparations for the scientific side of the work, whilst Charcot left for the Baltic in the *Pourquoi Pas ?* to take part in the General Assembly of the Geodetic and Geophysic Union at Stockholm.

His own personal prestige made this trip something in the nature of a diplomatic mission. When the white *Pourquoi Pas ?* entered the archipelago, a garden of grass-grown pink

granite islands, lying before the capital as though to defend it, she looked like a fairy-tale ship sailing to a fairy-tale city—the city of a thousand bridges. A flight of seagulls swooped over the water, betrayed by its smell and the whirling currents as the sea.

Charcot, passionately fond as he was of Saint Malo, could not remain indifferent to the complex grace of the most beautiful city in Europe, where all ages of a glorious past of independence are set side by side in perfect harmony. Everything spoke of France, from the royal palace built by Tessin le Jeune, to the Palace of the Nobles, the work of Simon and Jean de la Vallée. The town is haunted by the shade of Descartes, who died there in a hard winter, after coming to teach Queen Christina philosophy. Modern, up-to-date buildings stand beside these relics of the past, an old windmill against a concrete silo. Skyscrapers, churches of dull red brick, and a splendid Town Hall (said by Maurois to be the finest modern building in the world), standing with all the severity of a citadel and the magnificence of a palace, enrich the beautiful city. The ships are part of the daily life of the town. They are not relegated to a distant harbour, for the cargo-boats come alongside the Royal Palace and the cruisers near the Museum Quay. The waterways are as numerous as the roads, little boats as motor-cars, ferries as trams. The sparkling water brings freshness and gaiety into the heart of the green city.

Sweden gave Charcot a very warm welcome. The Swedes abandoned the icy politeness and 'rose-coloured melancholy' attributed to them by their national poet Bellman. Charcot was welcomed as a friend; he had been among the first to set out to the rescue of Otto Nordenskjöld, the Swedish explorer (in the Antarctic), which was more important than that he was the President of the Yacht Club of France. The liking he and

his hosts felt for one another was welded into firm friendship by innumerable *sköll's*.

In Copenhagen too he busied himself with arrangements for the 'Polar Year.' Actually he had learnt in Stockholm that the German expedition was laying a claim to Scoresby Sound, and he had gone to Copenhagen to defend the French claim, being warmly supported by the Danish explorer Lauge Koch. He was full of praise for that city, too, the kindness and gaiety of its inhabitants, the pink castles, and the belfries in the shape of a unicorn's horn. The sea was everywhere; all summer, life was spent in the water or on the water. The *Pourquoi Pas?* had anchored near the little bronze mermaid seated on a rock, gazing out to sea and awaiting the return of the Vikings.

On September 18th he wrote: 'I got back the day before yesterday, having sailed under canvas from Elsinore to Cherbourg in four days, with a strong gale blowing. In a few days' time we set off again and work in the Channel and the Atlantic until October 15th; then I go to London for the anniversary of the Royal Geographical Society.' This anniversary was celebrated on October 23rd, 1930, in the presence of the Prince of Wales. For once the custom of serving exotic dishes was broken. The great past of the Society was recalled; the names of Livingstone, Ross, Scott, who had died gloriously in the Antarctic, and Shackleton, who had met his death on board his ship the *Quest*, were invoked. The President, Admiral Sir William Goodenough, said in his speech that Charcot had given an enduring answer to the question posed by the name of his ship. Charcot modestly replied that he had been prompted by the example set by Englishmen.

All that winter he worked on preparations for the 'Polar Year,' trying, as well, to convince deputies of the necessity of voting credits. He put his scheme under the patronage of

the Ministry of Marine and the Académie des Sciences, and nominated the members of the expedition who were to winter at Rosenvinge Bay : three naval officers, a doctor, two civilian scientists, a warrant-officer and quarter-master and sailors.

The 'Polar Year' commission and the International Commission agreed that the *Pourquoi Pas ?* should go to Scoresby Sound in July 1931, and prepare a station, setting up one low-lying and one altitude station. But no subsidies were voted. Eighty-five thousand francs were needed for the low-lying station alone, and the wooden house for it had to be ordered in April. Charcot succeeded in gaining the interest of Paul Doumer, the President of the French Republic and godfather to the *Pourquoi Pas ?*, and obtained the required sum in a few hours. Madame Virginie Hériot, the famous yachtswoman, added a further sum. The house was ordered from Copenhagen, materials and carpenters were carried in the *Pourquoi Pas ?* and the *Gertrude Rask* by Mikkelsen and Charcot, working in perfect co-operation, and a site was chosen.

And after all this work had been carried out, on July 9th, the end of the Parliamentary session, Painlevé telephoned Charcot at ten in the morning to tell him that the Budget Commission had refused the subsidy. Charcot went at once to see Painlevé and Germain-Martin, but they were out. There was not a moment to lose. He rushed round to the Élysée to see President Doumer, who could only advise him to have a talk to each member of the Commission in turn. For the next four hours he did so, lying in wait for them one by one in the corridors of the Chamber, appealing to them as though he were a miserable beggar, persuading them by the force of his own convictions. Five minutes before the Chamber closed, thanks entirely to his own persistence, the subsidies were voted.

In December Charcot got into touch with the members of the mission, and with its leader, whom he had nominated, Lieutenant Habert. The two men were very different in temperament, and disliked one another from the beginning. The old explorer, who had accomplished splendid expeditions under the most primitive conditions, and who considered the harsh effort and rough life almost as part of his creed, could not understand the party's demand for modern comforts. Having had so much difficulty in obtaining subsidies he eyed expenditure he deemed excessive with mistrust and disapproval. He was deeply hurt at sensing a flippancy and lack of respect for himself in the young men's dealings with him.

The object of the 1932 campaign was the installation of the French Expedition at Rosenvinge Bay. On calling in at Iceland Charcot took on board one of Lauge Koch's aeroplanes. The deck and holds of the *Pourquoi Pas ?* were already filled to overflowing; he was carrying all the equipment for the Polar Year Expedition, including a central heating system, which was an object of surprised horror on the part of Charcot, and which eventually was to be used as a cage for bears, and, too, a motor-car, for which the *Pourquoi Pas ?* sailors would have to make a track! The men surpassed themselves, carrying jars of hydrogen, a 4-cwt. engine, and thirty accumulators, each of which weighed 22 lb., without a murmur. It was necessary to instal the two stations, one on the coast for electro-magnetic and meteorological research, and one on a hill-top for aerological observations.

Charcot's companions that year were particularly congenial. The actual members of the mission voyaged on the *Pollux*. On the *Pourquoi Pas ?* were three young scientists for whom Charcot had a special liking, Parat, Devaux and Drach. By the time he was thirty Parat had published a thesis on cytology

and was doing research on early diagnosis of tumours and cancer. Devaux was of a more passive, contemplative nature. He left his observatory on the Pic du Midi, the highest point in the Pyrenees, only so that he could embark on Polar work. Charcot was immediately attracted by his distinction and modesty. Drach, the youngest of the three, was assistant professor of zoology at the Sorbonne. He won Charcot's heart by his deference, and by the enthusiasm he displayed over preparations for an attack on the Rasmussen Mountains, whilst still carrying on with his marine biological work.

This was the sixth voyage of the *Pourquoi Pas ?* to Greenland. The Eskimos gave their usual warm welcome, and were enchanted by the profusion of necklaces and bracelets brought them by Charcot. Work was begun straight away. A human chain was formed across the rocks and snow, which passed the briquettes of coal up to the hill station, and whilst this was being done the mission doctors attended to the vaccination of Eskimo children. A violent gale, crashing the ice-blocks together and snapping the hawsers, made it quite clear that they were in the Arctic Ocean.

One evening Lauge Koch swooped down from the sky to tell Charcot of a spot near Cape Leslie abounding in interesting fossils. Then he put on his white bearskin coat, his lifebelt and his parachute, and was on his way again.

On August 11th the installation was completed, and the French flag climbed slowly to the masthead to the blaring of trumpets.

The *Pourquoi Pas ?* made Cape Leslie, at the far end of Scoresby Sound, passing innumerable icebergs on her way, and the naturalists were able to get their ammonites. Then the ship returned to the north of Iceland, battling her way through a tempest which lasted ten days. During the voyage measure-

ments of the conductivity of the atmosphere had been made, a study of the central nuclei of condensation, and measurements taken with a solarigraph.

The Habert expedition had been left in Scoresby Sound, where they were ice-bound. They were to know some anxious hours, in spite of their civilised comforts: continual tempests, the upland hut blown over, and their Danish wireless post, destroyed by fire, was useless. One day the wireless operator arrived from the Ella Island station, having sledged the 185 miles with his few remaining provisions, and having had to part with some of his clothing as food for the dogs. There was no sun from November 13th to February 8th. Christmas was celebrated with 68.5° F. of frost. One of the men was stricken with tuberculosis and parties had to set off by sledge to hunt musk-oxen for the fresh meat he needed. White heather bells heralded the return of spring, a spring so retiring that she only allows the plants two months in which to leaf, to flower and to die. But work was continued uninterruptedly, and every kind of observation and measurement made.

In August 1933 the *Pollux* and the *Pourquoi Pas ?* arrived from France. Once again the frail kayaks were hoisted on deck to give the news. Charcot this year was accompanied by Professor Chevallier, Parat, Devaux and Drach, the trio he was so fond of, and a young painter, Yves Creston. Creston had long wanted to sail with Charcot, but "You're not tough enough, my boy," the captain had said, "and you've never been in the ice!" So Creston, with his Breton determination, had signed on a Norwegian trawler and endured fogs and squalls to make himself worthy of the reward he longed for. Charcot was impressed and touched, and had taken him on for the 1933 campaign. He had also embarked three Cambridge students from the Scott Polar Research Institute, Brian Roberts, David

Lack and Colin Bertram. Brian Roberts had written asking if he and Lack could be taken to Scoresby Sound, and Charcot replied in English, on May 24th, 1933 : ‘. . . I shall be only too pleased to give you and D. L. Lack a passage to Scoresby Sound and hope, if thus, that you will accept to be my guests on board. For food it will be all right, but for sleeping comfort we will do our best and I hope that you shall not be too exigent, as the ship shall be cramfull. It will be nick-nack hospitality but very cordially given.’ Roberts warmly thanked Charcot for inviting them as his guests, and asked if a third man, Bertram, could also go, to which Charcot replied by saying that there was a French motto ‘Where there is place for two there is place for three’ and extended the invitation to include Bertram. ‘It shall be true *Entente Cordiale*,’ wrote Charcot.

Charcot wrote from Scoresby : ‘The *Pourquoi Pas ?* is definitely an international power—this year alone we have managed to be of use to the English, Danes and Germans.’ And on August 18th : ‘Our Englishmen are on board again with all their gear. They have done really splendid work during their eighteen days here. They go back delighted and grateful ; there I have suffered no disillusionment. Those are not the moderns, those young men of 20 to 22 years old ; they know how to express their gratitude, briefly and with sincerity.’ The young men, straightforward, well-educated and friendly, had made a good impression on everyone on board.

In his letter of thanks Brian Roberts spoke of Charcot’s ‘overwhelming kindness and generosity,’ and went on to say : ‘Quite apart from the scientific work that we have been enabled to carry out, we feel that we have learnt to appreciate French efforts and the French point of view to a much greater extent than we could ever have done in short visits to France. It is clear that the *Entente Cordiale* is not a mere political arrange-

ment, but a true personal friendship between the individuals of the two countries. All our plans for scientific work were carried out satisfactorily, and will, we expect, produce most interesting results. For this opportunity, and for your willingness to go out of your way to land us in the locality we had most desired, we can never be sufficiently grateful. Our understanding of your language has improved enormously, and we only hope that our lack of knowledge in that direction was not too troublesome. . . .' Charcot replied to this letter with the one letter of the correspondence written in French. He wanted to express himself as clearly as he could. '. . . I have always considered,' he wrote, 'that our two countries were the only ones which could and should understand each other, and get along together, so you did not have to convince me of it. But by your behaviour and example you managed to win over the entire crew and staff, and I am deeply grateful. "*Nos trois Anglais*"—which is what we all call you—have done more for the *Entente Cordiale* in their limited stay on board than all the official conferences.' In another letter Charcot wrote 'that all three of you are the nicest young fellows alive, that I wish you to consider me always as a good old friend, and that on my side I know that I can count on you. Do not forget that my home on land or water is equally yours. . . .'

The captain celebrated his sixty-sixth birthday at sea, off Westmanna Fjord.

Charcot had dropped his 'children' in groups round the shores of Scoresby Sound, the English on Jameson Land, Parat, Devaux and Drach on Milne Land, where they spent ten days with the famous black and white flag with its question mark flying over their mountain tent. The young explorers in their turn were able to name peaks and capes (Pic du Pourquoi Pas, Chatton Glacier, etc.). Lauge Koch some time

'DARLING PHTHORIMAEA'

before had given the name of Charcot to a stretch of unexplored land at the far end of Scoresby Sound.

After the inauguration of a monument to Paul Doumer they all set sail once more.

In January 1934 Charcot had a letter from Brian Roberts telling him that one of the moths collected at Cape Dalton had proved to belong to a species new to science, and asking permission to name it after Charcot as a 'further very inadequate expression of our gratitude for all you have done for us.' Roberts spoke of John Rymill's proposed expedition to Graham Land, and added that he was going on the expedition as surveyor and ornithologist. 'This expedition,' he wrote, 'will be doubly interesting to me now that I have been on a voyage with you, and I hope that we shall be able to carry on the great work to which you have devoted so much of your life.' Charcot answered: '. . . Thanks particularly for the *Phthorimaea Charcoti*' (the moth named after him). 'If I was young enough to have another daughter I do believe I would give her that name simply for the pleasure of hearing her sweetheart call her "Darling *Phthorimaea*" and outsiders believe he was sneezing. . . . Just allow for some advice for your expedition south. Take a good provision of old chains as ballast; you may with a small vessel like yours find a nook for wintering and defend the entrance against ice-blocks and even small icebergs in the most efficient way with chains well fixed across.'

A few days before Charcot left Saint Servan he was approached by John Rymill for advice on the proposed expedition, which was to continue Charcot's discoveries in the Antarctic to the south of South America. With Riley and Ryder, Rymill crossed the Channel to submit their plans to Charcot; Rymill and Riley had both been with Watkins the

year before, they had experience of Polar work, and yet were anxious to have the French explorer's opinion. Charcot was delighted by this proof of the regard in which he was held. All the old documents of twenty-five years back were spread out on the mess-room table in the *Pourquoi Pas*? "The old ship feels quite young again, thinking she is going back there," said Charcot. The English changed their plans on his advice. 'No prophet is without honour save in his own country.'

For his expedition Rymill had bought a French three-masted schooner, the *Alcyon*, which he rechristened *Penola*. Six months later Charcot received a cable which brought joy to his heart: 'France and England combine together once again. *Penola* is now at Petermann. British Graham Land Expedition.' His thoughts went with those who were attempting to continue his work; they were not French, but beyond the Polar Circle nationality was of no importance: 'There are only people of the Pole, only men.'

The Last Voyage

TOWARDS the end of June 1936, going along the dusty corridors of the Ministry of Foreign Affairs, I saw a man sitting on a rickety chair, hunched over a table ; one could tell at once who it was, from the little beard and the hat stuck on the back of his head. When I asked why he was there : "I'm waiting," he replied ; "I have waited for half an hour and I've no doubt I shall go on waiting. I am leaving in a few days' time ; I have got a hundred and one things to do, and here I am, wasting my time. I ought to be used to it, as it happens every year. Oh ! for my ship !"

He seemed weary, perhaps it was only impatience. We talked a little longer ; he teased me as he always did. I was indignant at seeing a member of the Institut, a Grand-officer of the Legion of Honour, Charcot, waiting unheeded. I promised that on his return I would go and stay at La Passagère, as he had often asked me to do.

"Au revoir, godfather."

"Au revoir, Antinea" (his name for me after my journey to the Hoggar¹).

A profound melancholy had pervaded Charcot since the beginning of the year, owing to the fact that he had reached the age limit and was to make his last voyage in the *Pourquoi*

¹ Antinea is the heroine of a novel about the Sahara by Pierre Benoit, the Hoggar a chain of mountains to the East of French Sahara.

Pas? Yet, he did not feel old. He said: "If I am always talking about my age it is because I want to convince myself of it, there is nothing in myself to bring it home to me, and I cannot believe that I am old." He wondered what was going to happen, whether his ship would make voyages without him, and he would sit at home and read the newspaper accounts of her expeditions, or whether, as he hoped, she would become a Polar Museum anchored in the Rance, where like her master she would find a haven of peace.

And he himself? What was to become of him? He would write his memoirs, the harvest of his experience, *Navigation dans les Glaces*, an outline of which he had given in the form of lectures at the Institut Oceanographique, and which was now quite detailed in his mind. Would he keep a small yacht at Saint Servan? But after skippering the *Pourquoi Pas*? no other ship could take her place. Charcot had none of the philosophical acceptance of a narrowed existence felt by those on the verge of retirement, nor did he make any of the usual plans. He was in a state of revolt. From a presentiment—or a hope—he often expressed the wish that he should die at sea. "Then neither my ship nor I would outlive the other."

To Brian Roberts and Colin Bertram Charcot wrote in May 1936, thanking them for the letters they had written him from the Antarctic, where they were with the British Graham Land Expedition. 'Of course I have followed in *The Times*, *Polar Record* and *Geography* all that was published, but it is much more thrilling to have direct news. . . . Reading your letters brought me back to old times and made me some thirty-three years younger, when I first came to Graham Land with the little *Français*. I should have preferred that for your first year's work what I told Rymill would not have

turned to be too true.¹ . . . I hope you found our mapping sufficiently correct for pioneer work, and that it was of some use. . . . I am off again to the old places with many of the same men you met on board.

'I suppose you have had newspapers, etc., and know all about the very rickety and black situation in Europe. I do sincerely hope that both our countries shall stick together; this desire is not only sentimental but also practical, as it seems to me that it is the only way to assure peace and prosperity. Politicians ought to go and pass some winters in the Antarctic, and it should be good for the whole lot of my countrymen to go there too and many of them to stay there !

'If I am still alive—you never know when you are in your 70th year—it will be a great treat to greet you and talk over the old Antarctic section. I shall bore your lives out with questions ! Don't forget to give me news as soon as you can, and specially bring me some details concerning Charcot's Land or Island. If I am still alive and kicking I am looking forward to receiving you in Paris officially and intimately.'

He was to leave Saint Servan on July 16th. He spent many tranquil hours on the Rance in the *Pourquoi Pas ?* launch, feasting his eyes on the peaceful countryside. It would seem as though he were saying good-bye to familiar things, to Saint Malo and his beloved Brittany.

"So everything has been done, Captain, and you are to leave to-morrow?" said the vicar of Saint Servan, seeing Charcot in his church.

"Not everything. I still have to take Communion," said Charcot, and knelt in the confessional.

As the *Pourquoi Pas ?* left the narrows Charcot was leaning on the deck-rail, he had not yet changed his old hat for the

¹ Bad ice conditions.

cap with its faded stripes. He smiled at Madame Morane, who photographed him from her yacht. His gaze lingered on the tall granite houses crowning the ramparts, stained pink by the setting sun. Ghosts of the great corsairs haunt the narrows, giving Saint Malo by their invisible presence a strange atmosphere of strength and pride.

The sea was scolding the rocks bared by the tide ; Charcot knew them all.

For one last time he saw, as though in a fading fresco, the ancient tower of Saint Servan, La Passagère through the pines. . . . Once past the Minquiers the waves seized the glorious ship—Brittany vanished into the night.

Parat and Devaux were on board once again, Clovis Jacquiart, the only son and pride of a gendarme, and Jean Badeuil, an amateur photographer and a doctor. And this year they carried a de luxe passenger, Nemours Larronde, librarian of the Geographical Society. Ceremonious and mundane, he was the kind of man who would put on his dinner jacket for a solitary dinner on a desert island after being shipwrecked. He amused them all by his Parisian elegance and his astonishment at everything he saw, but he charmed them by his good temper, his warm-heartedness and essential simplicity.

The *Pourquoi Pas ?* was taking scientific material to the Victor expedition at Angmagssalik. The coast was exceptionally free from ice. 'Not even one little bit of sea-ice on the East coast of Greenland, from Cape Farewell to Scoresby Sound.' His letters dated from Angmagssalik, where he had taken Victor, revealed once again his respect for the heroes of the Pole, and love of animals.

On August 9th, 1936, he wrote : 'Alas ! Everything is spoilt as far as I'm concerned, for a mother-bear and her

baby came trustfully right up to the ship, and at once the Eskimos and everyone on board went mad. For the former it was all in the day's work, but I sternly forbade anyone on my ship to take part in the inglorious slaughter that followed. I wonder if any among them understood, for cases like this awake every base instinct of cruelty in human nature. They were so happy, poor creatures, so loving. Probably the father is somewhere near, and he is sure to go the same way, for the Eskimos are astonishingly skilful. Perhaps it is better so.'

And on August 10th: 'The bay in which Watkins met his death lies open before us. I have taken a photograph of it, and one of our flag saluting the memory of this charming English explorer. These photographs will be sent to our English friends.'

One evening an exhausted seagull fell on the deck, and was carried at once to the captain. 'I opened the box where we had put our pretty seagull yesterday, fearing to find her dead. The lovely little creature walked into my hands. She made her toilette, stretched her wings and started to inspect the mess-room, letting me stroke her without showing any signs of fear, even coming to my hands of her own accord. I tried to feed her, but with no success till I thought of opening a tin of salmon. Then she did eat, and with extraordinary cleanliness, tidying up the crumbs scattered on the table, and then eating from the plate. When my companions came back, there we were having lunch together, she had her place set, and a glass of water beside it. She is completely tame, and does not attempt to get away from us. Her box is hung in my cabin; it has little windows, so that we can both see each other.

'If one goes near her when she is asleep, she opens one little

black eye, takes a look, and then shuts it again. She is lovely, dainty, an' very fine ; we have taken her photograph. I am worried as to what we ought to do with her. At any rate we shall not let her go till we are nearer land.'

He was still off the coast of Greenland on August 29th. 'We go on with our soundings, take bearings on the mountain-tops, correct the maps and photograph the coastline. I have been trying to do this work for eleven years now !'

Amdrup, Mikkelsen and Munck, the Danish explorers, had arranged a formal reception in honour of their friend Charcot, for the end of September, in the same way as two years before Charcot had organised a ceremony at the Sorbonne for the Danes. They awaited him impatiently at Copenhagen, but Charcot was held up in Iceland by serious damage to the ship, as he writes to his friend Pelissier. The letter is dated September 6th, and is the only existing record of the work of the last voyage.

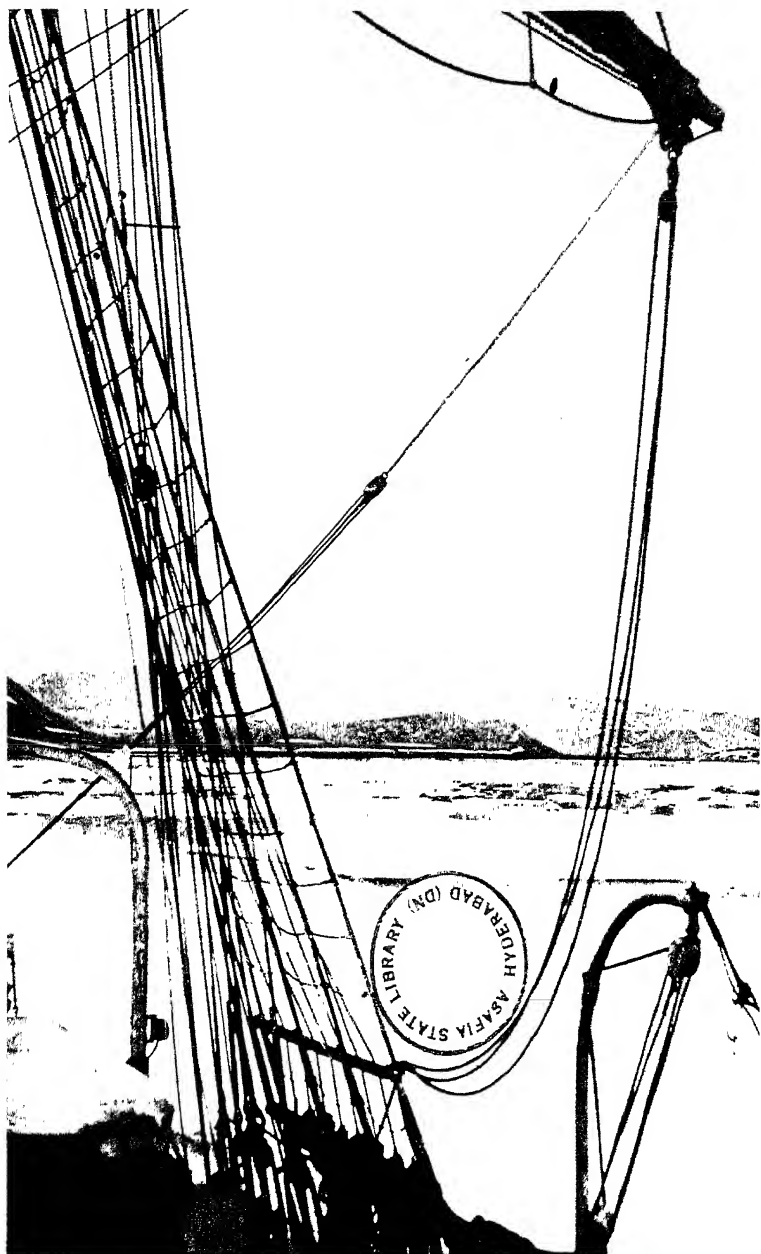
REYKJAVIK,
Sept. 6th.

DEAR FRIEND,

Excuse this note, written in haste so that I can catch the post which will soon be leaving. Here is a summarised account of our season's work.

A total, exceptional and inexplicable absence of sea-ice, but an increased number of icebergs. Weather either very good or extremely bad, in about equal proportions, but last month marred by dense fog.

We crossed from Reykjavik to Angmagssalik, where we unloaded supplies for the Victor and Co. expedition, whom we found all well and very pleased with themselves. I think they have reason to be, up to a point. We took Victor with an Eskimo family and all their belongings, 13 dogs, a 30-foot umiak, tents, provisions, etc., to his winter quarters at Kangerdlugsuatsiak (whew !) after having



Off the coast of Greenland

(P. Drach)



embarked other Eskimos farther south. To do that we used channels and fjords never sailed in by ships before. Of course we took soundings all the way. This might be of great use for the re-provisioning of Eskimos in case of pack-ice. There will be a nice little chapter in French to be added to the Nautical Instructions. From Kanger . . . what not, we started taking soundings for the blank spaces on the map between the coast and the usual limit of the pack-ice. They were interrupted by the most terrible storm I have ever seen at sea, even at Cape Horn, with the sea breaking on the icebergs with tremendous force. We had to take to our heels, with bare masts.

When fine weather returned, after 48 hours, we went to Isafjord to coal, as we had to make Scoresby Sound and embark Gessain and Perez, who were to get there in the *Gertrude Rask*. On our departure two days later a second gale forced us to take shelter in a small Iceland fjord. Then we continued soundings in uncharted regions as far as Scoresby Sound, up which we sailed, still taking soundings off the uncharted southern coast. We stayed two days at Milne Land so that Parat could do his geological work. On our return we verified the doubtful point you asked me about. Stayed 24 hours at Rosenvinge, where we met Mikkelsen and the *Gertrude Rask* and learnt that, as his ship had to return to Angmagssalik Gessain and Perez had decided they did not need us, and were going back to Copenhagen with him.

Turned south and immediately started winding between coast and usual ice-limit, taking large number of soundings. Stopped a night in d'Aunay Bay, then in Mikisfjord, where an iceberg took it into its head to topple over rather too close to us, which gave us palpitations but allowed us to do a neat bit of manœuvring. Fruitful use of the tow-net, geology, etc. Charted our soundings and then on Aug. 30th sailed away to Reykjavik.

At 22.45, 240 miles from Reykjavik, firedamp explosion, caused by the filthy Polish coal, blew out some forty

boiler pipes, leaving us only our canvas. An annoying situation, to say the least of it, as our fresh water supply was insufficient, our top-gallants out of action, spirit for the wireless not plentiful, sea very rough, no wind, lots of icebergs around and barometer falling. Morale excellent, but as we had to get to Reykjavik and then Copenhagen I wirelessly our consul giving our positions, and asking him, not to tow us in, but how we were going to get into port.

Half an hour later, that is at 1 a.m. on the 31st, I heard that the Danish aviso (despatch-boat) *Hvindborn* was only too happy to be able to be of service, and was setting sail to meet us. Congratulations to our friend at the Reykjavik wireless station who took it on himself to go and wake up the consul, to the consul for knowing where the Commander of the aviso was that evening, and to Commander Versted, a pupil of our *école supérieure*, who set sail at once. He joined us next evening, and in absolutely appalling weather towed us to Reykjavik (skilful handling on both sides, a tow-rope broken, loss of fresh hawser, meeting with an abandoned ship in flames, fog, sea, wind, the whole bag of tricks).

After examining the boiler the first-class chief engineer of the Danish ship, who had had the same accident himself on board the *Fulla* with the same coal, said it was quite mendable, and the boiler was put in the hands of a Reykjavik firm used to this sort of work. Boiler now repaired, at a third of the price I should have had to pay in France.

Trials to-morrow, first cold, then hot, then departure for Copenhagen. In the meantime received telegram from Paris Ministry Marine on 4th saying Belgian Government wanted *Pourquoi Pas ?* at Ostend for International Maritime Congress of 6th-13th September. Answered materially impossible and something meant to convey that our work was of more interest to a maritime congress than our presence ! (I hate congresses and all the palaver that goes with them.)

We are the spoilt children of the aviso ; these Danes are fine fellows. We are bombarded with telegrams from Copenhagen to know when we arrive.

There, in a nutshell, you have all I have time to tell you, old friend, do what you like with it.

Le Conniat (captain of the *Pourquoi Pas* ?) splendid, crew excellent, scientist staff charming and competent. Yours faithfully learnt by wireless on Aug. 6th that he was the grandfather of a baby girl—and Bobette, our dog, has had three puppies. We are bringing back a seagull (*Rissa tridactyla*) who installed herself on board off the coast of Blosseville, and refuses to leave us, she flies about freely in the mess-room and on deck, and has her meals with us. I have seldom seen a more beautiful fine-looking creature. We are also bringing a hydrangea in perfect condition, a native of Saint Malo. Badeuil has done good work.

Again all my apologies for this scribble. I assure you I am neither drunk nor mad !

Yours very affectionately,

Charcot.

You can tell Madame Pelissier and your daughters from me that this year's fashion for icebergs at Angmagssalik was the arch-form.

I had forgotten—I piloted the yacht *Rosaura* to Scoresby Sound, at her wirelessly request, then to Jan Mayen. *Rosaura* is Lord Moyne's yacht, on which His Majesty the King of England has often sailed. I did not know the noble lord in question, and I had quite a surprise on receiving his first wireless message. We will probably never see each other again, but we are very good friends. . . .

To-morrow I am officially to invest Monseigneur Meulenberg, Bishop of Iceland, with the insignia of Commander of the Legion of Honour. He certainly deserves it, he has just presented us with a splendid church-shaped cage for our gull. See the gospel for to-day.

It was nearly thirty-five years since Charcot had first visited Iceland, a country for which he had a special liking, and where he had many friends. Now and then he went for a sail in the harbour with Nemours Larronde, in the little dinghy he had bought in the Faroes. 'I have never felt better or stronger,' he said. 'I have just climbed a steep hill and thought nothing of it.' He went alone to pray in the Reykjavik cathedral, where he poured out his most personal troubles.

Charcot was satisfied with the results of the expedition, which he considered more important than those of other years. And yet . . . melancholy pervaded him. The accident to the boiler, 240 miles from Reykjavik, had upset him. Although he had suffered many misfortunes, this one, which after all had had a happy ending, depressed his usual good spirits. He had never before stayed so late in the Iceland sea.

'If we have to return under canvas it will take us many months'; and he was worried about his ship: 'The future of the poor boat is very black. They will seize the advantage offered by this accident to get rid of her. We have escaped once or twice by a miracle on this voyage, but miracles do not always happen again and again. Have we brought happiness or sorrow to our seagull?'

When someone said to him once: "You seem absolutely tireless, will you go on right up till the end?"

"I certainly hope so," Charcot replied. "Is not death itself a great voyage?"

"But not a voyage you will make in the *Pourquoi Pas*?"

"*Pourquoi Pas*?"

Shipwreck

'Sombrer. Sondez ce mot. Votre mort est bien pâle
 Et pas grand'chose à bord, sous la lourde rafale,
 Pas grand chose devant le grand sourire amer
 Du matelot qui lutte. Allons donc, de la place.
 Vieux fantôme éventé. La mort change de face :
 La Mer. . . .'

Tristan Corbière.

ON September 14th Charcot wrote once again to his sister Jeanne : 'Whilst they were repairing our boiler, they found that the damage was more considerable than had at first been supposed. We side-slipped a grave accident by unheard-of luck. Everything has been mended and tested. I am not in very good spirits.'

Two young Frenchmen came to spend an evening on board the 'little floating France,' as Larronde called the *Pourquoi Pas* ? Everyone was very gay.

"I told the Bishop," said Jacquier, "that I deserved to go to Paradise, because I managed to eat some *skyr*.¹"

But Charcot remained serious ; there was an unusual sadness in his large black eyes. Only the sight of the seagull in her cage comforted him. "She must be the reincarnation of an ancient French Polar pioneer," said Larronde, "breathing her native air in our mess-room. How else can you explain her attachment for our ship ?"

The conversation turned on French interests in Iceland.

¹ National dish of Iceland.

"It's going to be hard work now," said Charcot. "But we must look on it as a mission. An ideal can fill the sails. Idealism is the only force that counts for something, sweeps away all obstacles."

A profession of faith which comes to us as a final message. The *Pourquoi Pas ?* was to set sail next day, but a storm got up in the afternoon. The delicate pastel-tinted landscape darkened into an accursed land. Charcot had to postpone their departure. At midnight he went up on deck to feel the wind, and was so violently buffeted on the bridge that he was almost thrown overboard. On the following morning, September 15th, the wind had dropped, the sea was calmer and the barometer rising, the sun once more lit up the familiar mountain scene. The nightmare was dispersed.

They made their departure. Charcot's friends stood on the quay, shouting, "Au revoir !" But Charcot shook his head. "*Au revoir là-haut !*" he answered, looking up at the blue heavens, for this year marked a final farewell to Iceland, and he knew he would never see his Northern friends again on earth.

The sea was lovely, 'green and smiling' according to the spectators. The *Pourquoi Pas ?* slowly drew away, but white handkerchiefs waved by those on deck could be seen for a long time.

The calm did not last long. Towards 6 p.m. the storm got up again, suddenly, terribly, a storm so fierce that nothing like it had ever been seen before off the coasts of Iceland.¹ Roofs and houses in Reykjavik creaked ominously. No one in town could sleep, they were thinking of those at sea. No doubt the *Pourquoi Pas ?* had already doubled Skagi Point, and was making south. She had seen other storms and could

¹ The storm was so bad that no wireless weather report was picked up.



*Rita, the favourite seagull
On the bridge for the last sailing . . .*

(Nemours Larronde)



weather this one in the open sea away from dangerous reefs and currents.

But she was never to reach the open sea. She had doubled Skagi Point, when rain began to fall heavily from the black sky. It would be under those conditions, with a S.E. wind getting up, that they would have to pass a danger-spot off Reykjanes, avoiding its dangerous reefs. Charcot and Le Conniat realised at once that they could not fight a head-wind, and veered round. It would be impossible to return to Reykjavik, as the gulf lies N.N.W. by S.S.E., and in such heavy weather, with a following wind, the ship would have been capsized by the waves.

Charcot then probably thought of trying to reach the little north-westerly fjord Hvalfjord, near Akranes, which he considered a good shelter, and had used once before, in 1928. Currents flowed towards the shore, but approach was difficult as rocks lined the coast for several miles.

The little three-master was pushed towards the rocks by the huge cyclonic depression, travelling at 50 miles an hour.

There is no testimony, no log, unfortunately, of those last hours, only the evidence of Gonidec to establish what happened on that terrible night of storm. When at midnight he took the watch, it was thought that the ship was six miles from Skagi, where the 'magnetic disturbances of the Gulf are at their strongest.'

The ship was facing into the wind, making no progress, 'on the starboard tack, the spanker hoisted, the engine turning 100 revolutions to the minute, helm hard astarboard to keep a course that would be about E.S.E. It was impossible to estimate how much she was drifting.'¹

'The exceptionally strong wind was veering slowly to the

¹ Quoted account taken from the official report.

South, the sea very rough, torrential rain was falling. The flood tide had set in during the last hour. The *Pourquoi Pas ?* found herself in a dangerous semicircle of a cyclonic depression, a little ahead of the centre of the depression.

'At about 2.45 a flashing light could be seen through the rain and spray not far from the bows. This light was hard to identify, but those on the bridge, Charcot, the captain, the second-in-command (master-pilot Floury) and the helmsman, had no doubt but that it was the beacon on Akranes Point.

'Le Conniat, seeing that he was very close to the light, less than a mile away, had soundings taken, and found depths of 30, 35 and 45 metres. As they were drifting on to land they had to manœuvre. So as to lose as little way as possible an attempt to luff was made, but the *Pourquoi Pas ?* missed stays, and they had to veer to the port tack so that the wind carried them off land.

'It is quite likely that the ship narrowly escaped the reefs at Akranes Point at this juncture.

'She was drifting N.W. now, it was thought, keeping clear of the Akranes light, which was still just astern on the port side. The barometer rose suddenly as the centre of the cyclone passed by. The sea grew rougher than ever, and the wind was still blowing strongly, still veering, and pushing the ship towards land. The spanker was torn to shreds and smashed the lifts of the gaff.

'Towards 4.30 a.m. the mizzen mast fell, carrying the wireless aerials with it.'

Contact with land and with other ships was broken; the *Pourquoi Pas ?* was alone, hopelessly alone in the storm. Charcot had no thought of rest, he knew that the ship was lost, and thought that the storm was God's answer to the

agonised forebodings he had felt those last few days. Carefully he took the little seagull, asleep in its cage, and carrying her on to the bridge he let her fly away. She at least would reach land ! Perhaps the gull, white as a dove, would symbolise their own deliverance.

His spirit rose towards the God in whom he believed. Let him be taken, let him die the splendid death of a sailor, as he had always longed to do, but let his lads, young and strong, be saved. For him, now, it was only a question of meeting death bravely ; his hour had come, and he knew it. But he must exert every effort to help Le Conniat in saving the others, his children.

It was still half dark. "Gonidec, fetch me the map of the N.W. coast."

Five o'clock. Drifting nearer to the shore the *Pourquoi Pas ?* went by the entrance to Bargarfjord. When Gonidec returned there was enough light for them to see rocks left bare by the sea all around the ship.

'Le Conniat tried to manœuvre his way between them ; he gave orders for increased speed. He was told that the engine was already running at full speed.'

At five-fifteen the *Pourquoi Pas ?* twice struck a submerged rock, as she had done in the Antarctic.

'She listed to starboard, and then a gigantic wave snatched her up, shattered the boats, and hurled the launch into the sea. She was over the rock and righted herself, having swerved completely round ; she had not sprung a leak. The boiler had burst at the shock, and clouds of steam escaped, and the engine stopped. The disabled ship drifted helplessly among the rocks.'

Le Guen, the first mate, who had been working in the rigging like an acrobat for hours, was snatched like a wisp of

straw by the wave. Powerless to help they saw him struggling, trying to swim. The shout of 'Man overboard !' was of little use now. Without a cry, choked by the wind, the good stout-hearted Le Guen went under, whilst already 'his men were on the mizzen mast, trying to rig the little fore-top-sail, and running up the fore-staysail at Charcot's command.'

Le Conniat, cool-headed, ordered all hands on deck with their lifebelts. Doctor Parat, who was up on the bridge, noticed that Le Conniat had no lifebelt, and went below to look for it ; he could not find it. "It doesn't matter," said Le Conniat. Three times he sent Bastien and Billy to do the rounds of the holds ; he put some of the crew to work at the pumps ; others tried to lower the boats, which were shattered against the side of the ship, or capsized.

Through the desperate tossing of the ship, the howling of the storm, the rain and heavy seas, the crew kept perfect discipline.

'The ship's head was turned towards land, which could be seen at intervals, about a mile and a half away, and the captain no doubt at that moment intended to get away from the reefs under canvas. But he realised almost at once that this was a hopeless manœuvre, and to avoid being carried towards the reefs to leeward, decided to drop both anchors. The chains were paying out, but before they could hold the *Pourquoi Pas ?* she was dashed on to a rock that tore away her keel, she bounded over the rock, and then began to sink.' . . . The decks were now on a level with the sea. The tremendous waves swept away the seamen and the scientists who were helping them as best they could. Charcot, on the bridge, was a powerless witness of the scene. "Oh ! my poor children !" he cried. That heart-broken cry still rings in Gonidec's ears.

‘While lending a hand with the launching of a boat, Gonidec was thrown in the sea. He caught on to a dory, where Pochic and Jaouen had taken refuge. A few seconds later this boat was engulfed. He swam, battered by the sea. On the crest of a wave he turned his head for a moment ; all that could be seen of the *Pourquoi Pas ?* was her masts and her bridge, with Charcot, Le Conniat, Floury and Dr. Parat still standing there.

‘After a very long time he saw land and a house. He encouraged seaman Jaouen who was swimming beside him, but soon Jaouen could keep up no longer. Then he came up to the mechanic Peron, held up by a lifebuoy. Together they swam towards a plank from the gangway, which they then pushed in front of them. They had been in the water three hours, and were close to the shore. But Peron gasped, threw up his arms and sank. A few yards from land Gonidec could do no more. As he was losing consciousness he was seized and carried ashore by a young Iceland peasant who had leapt on to the surf-drenched rocks to save him.’

Rumours of the shipwreck reached Reykjavik about nine o’clock next morning. The guardship *Aegir*, and the lifeboat of the same name left immediately and cruised for forty-eight hours round the masts, which could still just be seen, in the hope of picking up a survivor. But all the men of the *Pourquoi Pas ?* had been swept overboard and their leaders made no attempt to avoid the fine traditions that a captain sinks with his ship.

“If fate had willed Charcot to be the sole survivor, he would have contrived to disappear,” his friend Pléneau said. “He would never have outlived his men.”

The Danish *Hvindbjornen* left Borgarfjord to join the two Icelandic ships.

Over washed-out roads, by car and on horseback, hastened M. Zarzewski, the French consul, to the little farm at Straumfjordur where Gonidec was lying. He only reached the wild jagged coast next day, and already wreckage had been thrown up on the beach, the wheel, broken in two, lifebuoys marked with *Pourquoi Pas ?*, lifebelts, bits of furniture and boats, some roll-films which have since been developed, Badeuil's paint-box—the young painter who had written 'I'm in luck ! I'm going with Charcot !'—He was young, he had gone on swimming for a long time. . . . The bronze and silver plaque with the words 'Honneur et Patrie' had also come to shore. Heavy though it was, the device which had been the soul of the ship was not to perish. The masts had disappeared, the sea had closed over them, and had thrown up some of the bodies of her victims, twenty-two out of forty-one. She had given up the greatest of them all. He lay there, his face as serene as though he were in a dreamless sleep : the bustle and anxiety of the world had faded for ever into the eternal peace promised to men of goodwill.

A great man had entered into History, in an apotheosis such as the ancient gods reserved for their heroes. Gentle, comforting death had folded him in her wings, he and his companions. She left on earth but a single witness, so that their courage could be told to all.

There he lies, simple, kindly Charcot, bareheaded in his sailor's clothes, on the earth of the Iceland he loved so well.

The storm continued its deadly raging, and it was with difficulty that the *Aegir* transferred the bodies to the *Hvindbjornen*, which was to take them to Reykjavik. There they

“CHARCOT AND HIS MEN!”

were taken to the hospital, where Monseigneur Meulenbergh, ‘apostolic prefect for His Holiness the Pope beyond the Polar Circle,’ gave them benediction.

The French Government sent a destroyer and a transport ship to Reykjavik. A farewell service was held in the cathedral where Charcot had so often knelt side by side with his men.

Eight days at sea . . . but this was no joyful homecoming. A sorrowing Brittany awaited them, and as the coffins were piped up from the hold a white seagull hovered over that of Charcot, the same gull, say the Bretons, that brightened the last days of his life.

Père Gautier was waiting for them there. He remembered the launching of the *Français* and the *Pourquoi Pas ?*, gleaming and throbbing with new life. He mourned not only the men, but the ship he had created. And all the families of the Breton lads stood waiting silently ; an old father, bent with age, a mother wrapped in a big black shawl, a young widow holding the hand of a weeping child, and Gonidec, poor Gonidec, muttering monotonously : “Why should I be alive ? Why am I alive ?”

Twenty thousand people did homage that night at Saint Malo. In the morning the flower-laden coffins were taken to a cenotaph erected on the quay, bearing the names of those held by the sea, with the wreckage grouped round a model of the glorious ship. After a religious service came the roll-call of the dead.

“Capitaine de frégate Charcot”

“Died for his country !”

“Officier des Equipages Le Conniat”

“Lost at sea !”

and so through the list of forty-one names.

A silent, immobile crowd was massed in Paris to greet them.

SHIPWRECK

Only a few days before there had been political unrest, but at the news of the shipwreck, and the loss of *notre grand Charcot*, there was a truce for the sake of the *Pourquoi Pas ?* Even the most vehement forgot his quarrels to bow his head before the Breton lads and young scientists, before the leader who had given his life.

The coffins were taken to Notre Dame, and sailors, scouts and personal friends stood watch that night. In the morning the vast cathedral was filled ; no one was there simply out of curiosity, every heart was wrung by the sad trumpet call, the solemn plainsong rising and falling like the sound of the sea.

Tributes of praise and sorrow came from every country, the world was united by the name of Charcot.

The most moving farewell came from Mikkelsen in Greenland : 'And the day will come when, taking a child by the hand, as Charcot often did, an Eskimo will point at the Aurora Borealis, remembering the old legend that it is the dead playing with the sun which makes that flaming glory, and say, "Look, my child, they are happy up there, Charcot and his men !"'

'But Greenland will never be the same again . . . Charcot and the *Pourquoi Pas ?* have gone !'

And Saint Malo will never be the same again ; there is an empty berth in the harbour of Saint Servan, and an unused mooring-stone !



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